General Administration
STATE OF WASHINGTON

Implementation of RCW 39.35D
High-Performance Green Building

July 2008 through June 2010

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Implementation of RCW 39.35D
High-Performance Green Buildings
Report to the Legislature

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General Administration's Green Building Program

[1] **Leadership in Energy and Environmental Design (LEED) is an internationally recognized green building certification system**, providing third-party verification that a building or community was designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO_2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

Developed by the U.S. Green Building Council (USGBC), LEED provides building owners and operators a concise framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions.

LEED is flexible enough to apply to all building types – commercial as well as residential.

Implementation of RCW 39.35D "High-Performance Green Building"

REPORT HIGHLIGHTS

Washington's High Performance Green Building effort is exceeding requirements. Nearly all agency projects are achieving the minimum requirements of LEED Silver and many are achieving LEED Gold. One project achieved the top rating of LEED Platinum.

- 94 percent of state agency, university and college projects are participating, with a large percentage of the projects seeking and achieving LEED Gold.
- During this reporting period, 20 state-owned projects were certified resulting from the statute. The LEED levels reached were as follows: one LEED Platinum, 12 LEED Gold, and seven LEED Silver. Case studies can be found in Appendix 1.
- GA is tracking 117 state-owned projects.
- Added cost for LEED ranges from -1.4 percent to +3.4 percent based on total project cost data.
- Energy savings are estimated between 14 percent and 46 percent. Payback was under 11 years in four out of six projects.
- Construction waste recycling diverted over 90 percent of construction debris, or 12,800 tons from landfills.

BACKGROUND

RCW 39.35D requires major facility projects funded in the capital budget or projects paid for through financing contracts to be LEED Silver-certified. This applies to public agencies that enter into the design phase or the grant application process after July 24, 2005.

GA is responsible for developing and issuing guidelines for green building by public agencies in Washington. GA is also charged with making recommendations to improve the overall process. Agencies report annually to the department about their projects.

GA reports to the Governor and Legislature by September 1 of each even-numbered year. This report covers the period of July 1, 2008 – June 30, 2010.

State LEED Results Summary

This section provides a summary of the state Green Building program including tables and graphics illustrating costs and calculated performance data. A spreadsheet that shows all 117 of the tracked projects and their status is also displayed. Recommendations for improvements to the program are covered in this section as well.

Table 1 – State LEED Projects provides a listing of the state projects that have achieved LEED certification since the RCW 39.35D requirement took effect.

Building Name	Location	Agency/University Name	LEED Rating
Science & Heath Building	Mount Vernon	Skagit Valley College	Platinum
Business Education "B" Building	Pasco	Columbia Basin College	Gold
Coyote Ridge Corrections Facility	Connell	Washington State Department of Corrections	Gold
Early Learning Center	Tacoma	Tacoma Community College	Gold
EWU Student Sport & Recreation Center	Cheney	Eastern Washington University	Gold
Hargreaves Hall Renovation	Cheney	Eastern Washington University	Gold
Natural Sciences Complex, SPSCC	Olympia	South Puget Sound CC	Gold
New Science Center	Centralia	Centralia College	Gold
New Vocational Education & Support Bldg.	Vancouver	WA State School for the Deaf	Gold
Science & Technology Building	Bellevue	Bellevue CC	Gold
sn-w'ey'-mn	Spokane	Spokane Falls CC	Gold
UW - Clark Hall	Seattle	University of Washington	Gold
UW Floyd and Delores Jones Playhouse	Seattle	University of Washington	Gold
AHCC Building C2	Airway Heights	Washington State Department of Corrections	Silver
AHCC TPB	Airway Heights	Washington State Department of Corrections	Silver
Cedar Creek Correctional Center	Littlerock	Washington State Department of Corrections	Silver
Olympia Avenue Student Housing	Pullman	Washington State University	Silver
Undergrad Classroom Bldg.	Vancouver	Washington State University	Silver
Undergraduate Education Center	Everett	Everett CC	Silver
Washington Youth Academy	Bremerton	WA State Military Dept.	Silver

Note: Projects not in order of when awarded LEED certification

Since approval of RCW 39.35D, the 20 public buildings listed above have achieved certification. In addition to these, many public projects are nearing completion and their project teams will soon be submitting for LEED certification.

Table 2 – Project Status of Projects Pursuing LEED

Status	# of Projects
Design	27
Construction	28
Substantial Completion and/or Completed (estimate)	23
Projects with LEED Certification	20
Miscellaneous Projects (on-hold or dropped)	12
Projects Taking an Exemption	7

Table 3 – State LEED Project Tracking provides a listing of all the state-owned LEED projects being tracked by GA. GA's Green Building Program is tracking 117 state LEED projects in the GA LEED Quality Assurance (GA LEED QA) process.

- The GA LEED QA process consists of four to five submittals depending on if a project has a pre-design phase.
- The initial GA LEED QA submittal provides a project schedule that is used to populate the State LEED Project Tracking table.
- The projected LEED level is indicated by a colored bar when the submittal is received.

Example: When the design development submittal is received, the current projected LEED level is indicated by the coloring of the project schedule on the design development cell of the spreadsheet. The table also indicates which projects have received LEED certification (far right side), the level achieved, and the month and year received.

Department of Commerce Update:

This year marks a milestone for affordable housing projects pursuing financing through the state Department of Commerce (Commerce). The first certified projects to meet the Evergreen Standard have been completed. The Evergreen Standard, which was developed for this Commerce program, is similar to LEED, but is for residential buildings instead of commercial/institutional buildings, which are more appropriate for LEED.

Another program administered by Commerce is the Competitive Grants Program, which includes the Building Communities Fund, Youth Recreational Facilities Program, and the Building for the Arts Facilities Program. The grant program provides the final 25 percent of capital funding needed for a project. There are 45 active projects that have indicated that they are going through the LEED process. Of those:

- 13 have achieved LEED Silver.
- Five have achieved LEED Gold certification.
- 27 are pursuing LEED certification.

Commerce's 2011-2013 Competitive Grants Program had 29 projects applications. Of those, 34 percent (or 10 projects) plan to achieve at least LEED Silver certification, compared to 23 percent in the 2009-2011 biennium and 20 percent in the 2007-2009 biennium.

State LEED Projects

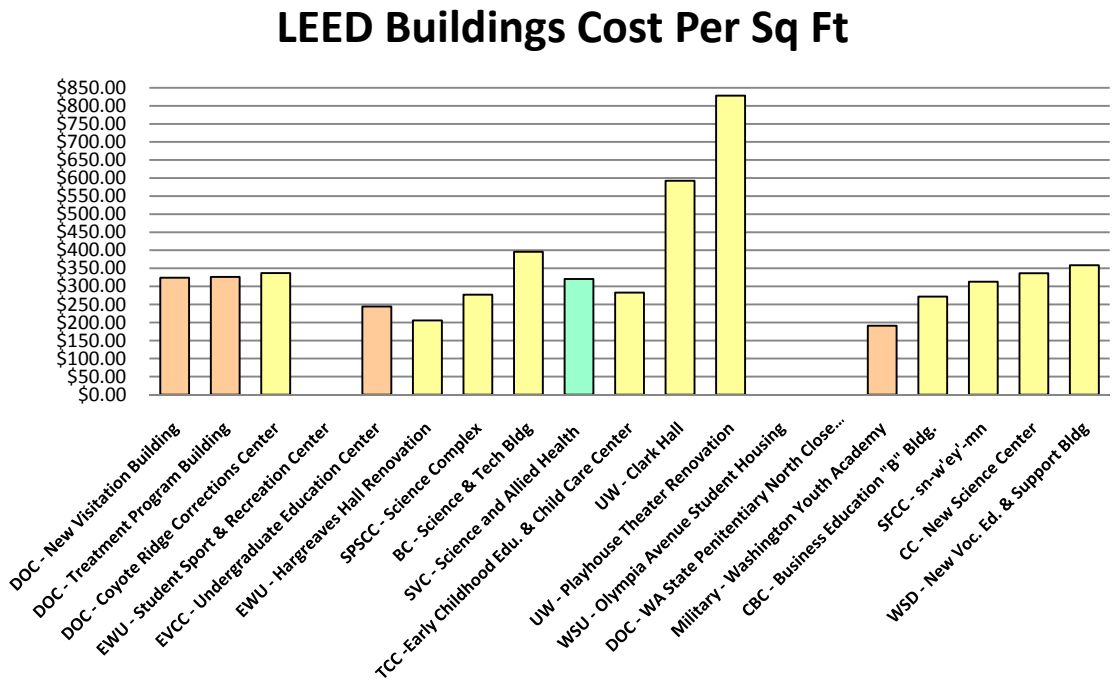
Project Information		Project No.	Construction Cost Estimate	Project Square Footage	Project Manager	Submittal Received (Note: Dates not shaded are anticipated submittal dates.)						LEED Certification
Project Mgt.	Project Name					Exemption	Pre-Design	Schem. D.	Design Dev.	Const.Doc.	Post-Const	Awarded
GA-A	GA Building/Executive Office Plaza/Heritage Center	06-117	$221,000,000	324,000	Penny Koal	Dropped	8/31/2006	8/10/2008	12/1/2008	8/1/2009	11/1/2012	
GA-A	Military - Olympia Readiness Center	06-017	$3,700,000		Erasmus Othieno	On Hold						
GA-A	Military - Washington Youth Academy	07-189	$5,000,000	20,000	Yelena Semenova		9/27/2007		9/27/2007	2/20/2008	1/7/2009	Aug-10
GA-A	Centralia College-Science Complex	03-218	$20,400,000	70,000	Jim Copland		8/30/2006	12/1/2005	9/15/2006	1/15/2007	3/9/2009	Aug-10
GA-A	Clark College - East County Satelite Campus	05-099	$20,470,000	70,000	Todd Flynn		8/30/2006	8/30/2006	6/21/2007	10/30/2007	4/22/2009	
GA-A	Clark College - Training Center - On Hold				Marziah Kiehn	On Hold						
GA-A	Clover Park TC - Allied Heath Care Facility	06-092	$21,480,000	56,000	Erasmus Othieno		6/16/2006	3/19/2008	5/1/2008	9/1/2008	12/1/2010	
GA-A	Grays Harbor CC - Voc. Ed. Renovation	05-186			Stacy Simpson	2/6/2006						
GA-A	Grays Harbor CC - Childcare Center	09-015	$1,635,000	6,246	Stacy Simpson		10/6/2008	11/17/2008	12/19/2008	3/13/2009	2/4/2010	
GA-A	Olympic College - Humanities Building	05-187	$21,200,000	85,012	Ronnie Hill		8/18/2006	3/28/2006	11/6/2006	9/1/2007	1/8/2010	
GA-A	Olympic College - Sophia Bremer Child Development Ctr	08-256	$3,318,000	12,890	Ronnie Hill		12/1/2008	2/1/2009	4/1/2009	10/1/2009	10/1/2010	
GA-A	Peninsula College - Business & Humanities Center	06-125	$26,000,000	63,000	Jim Copland		6/11/2009	6/11/2009	6/11/2009	2/9/2009	3/28/2011	
GA-A	Pierce College - Ft. Steilacoom - Science & Tech Center	03-200	$21,300,000	70,000	Todd Flynn		8/21/2005		7/17/2007	1/1/2007	2/25/2010	
GA-A	Pierce College - Puy - Communication, Arts & Allied Health	03-198	$19,000,000	60,000	Todd Flynn		8/22/2006		7/17/2007	12/1/2007	9/22/2010	
GA-A	SPSCC - Science Complex	03-223	$18,546,500	66,990	Bala Ramaya		8/3/2006	8/3/2006	9/1/2006	1/1/2007	10/30/2008	May-10
GA-A	SPSCC-Campus Center Redevelopment Phase 1	08-150	$8,550,000	40,000	Bala Ramaya		10/1/2008	10/1/2008	12/1/2008	2/1/2009	6/1/2010	
GA-A	SPSCC-Campus Center Redevelopment Phase 2	08-150	$16,831,000	30,000	Bala Ramaya		7/1/2008	7/1/2008	1/15/2009	8/18/2009	9/1/2010	
GA-A	SPSCC-Campus Center Redevelopment Phase 3	08-150	$23,700,000	89,000	Bala Ramaya		10/23/2009	12/31/2009	4/30/2010	9/30/2010	1/2/2013	
GA-A	SPSCC-Campus Center Redevelopment Phase 3	08-150	$23,700,000	89,000	Bala Ramaya		10/23/2009	10/23/2009	1/8/2010	3/2/2010	11/1/2010	
GA-A	Tacoma CC-Early Childhood Edu. & Child Care Center	06-205	$4,242,000	15,000	Yelena Semenova		6/28/2006	11/26/2006	2/12/2007	10/18/2007	7/18/2008	Oct 09
GA-A	Tacoma CC-Health Careers Center	07-142	$29,935,000	69,266	Yelena Semenova		10/1/2009	3/1/2010	10/1/2010	7/1/2011	1/1/2013	
GA-A	WA School for the Deaf, New Voc. Ed. & Support Bldg	07-214	$10,900,000	23,134	Dwayne Harkness		1/1/2003	1/1/2003	12/17/2007	8/4/2008	8/1/2009	Aug-10
GA-A	WA School for the Blind, New Phys. Ed. Center	08-040	$8,000,000		Dwayne Harkness			8/1/2005	1/1/2006	12/1/2007	3/1/2009	
GA-A	Capitol Campus - O'Brien Bldg.	07-022	$27,000,000	103,987	Marziah Kiehn					5/27/2009	10/12/2012	
GA-B	Bellevue College - Science & Tech Bldg	06-123	$27,500,000	69,511	Bob Colasurdo		2/3/2006	4/15/2006	6/19/2006	10/19/2006	11/1/2008	Jul-10
GA-B	Bellevue College Health Sciences Building	08-036	$25,538	70,000	Bob Colasurdo		7/1/2008	2/15/2010	6/1/2010	11/15/2010	4/1/2013	
GA-B	Bellingham TC - Campus Center	08-070	$22,400,000	74,000	Greg Rohner		3/5/2008	3/5/2008	7/2/2008	12/28/2009	3/1/2012	
GA-B	Cascadia CC - Center for the Arts, Tech, & Global Interact	06-144	$25,000,000	60,400	Bob Kacel		9/15/2006		11/28/2006	12/5/2007	4/1/2009	
GA-B	Columbia Basin C - Social Science Ctr - Visual Arts Bldg.	07-153	$12,410,000	40,520	Dave Combs		7/1/2008	7/1/2008	12/1/2008	6/1/2010	9/1/2012	
GA-B	Columbia Basin C - Business Education	07-151	$4,715,245	24,000	Dave Combs		6/1/2007	6/1/2007	8/4/2007	3/19/2008	6/30/2009	Jul-10
GA-B	Columbia Basin C - V Building Career & Tech Education Ctr	07-152	$1,802,000		Dave Combs		2/30/2008	4/30/2008	7/31/2008	4/30/2009		
GA-B	Criminal Justice Traning Cntr - Hawthorn Hall Replacment	07-187	$11,071,000	312,974	Phil Timpke	Dropped	10/1/2008	11/17/2008	2/2/2009	8/17/2009	8/17/2010	
GA-B	Edmonds CC - Meadowdale Hall Renovation	08-058	$5,534,000	36,100	Linda Colasurdo		8/20/2007	8/20/2007	4/21/2008	11/10/2008	11/1/2010	
GA-B	Everett CC - Undergraduate Education Center	05-219	$21,000,000	86,000	Joe Sullivan		8/11/2006	9/11/2006	5/22/2007	5/22/2007	11/5/2007	Sept-09
GA-B	Everett CC - Student Fitness & Health Center	08-199	$17,000,000	50,000	Jonathan Martin			4/1/2008	8/25/2008	12/18/2008	12/14/2010	
GA-B	Everett CC - Index Hall Replacement	09-207	$27,000,000	70,000	Linda Colasurdo		8/16/2010	8/16/2010	11/1/2010	5/1/2011	4/1/2013	
GA-B	Ecology - Northwest Regional Office	06-257	$54,701,000	84,647	Bob Colasurdo	Dropped	12/7/2006	12/7/2007	6/11/2008	10/11/2008	1/1/2011	
GA-B	Green River CC - General Classroom Bldg.	07-193	$26,281,180	79,996	Julie Nakahara		9/1/2007	9/1/2007	3/1/2008	6/1/2008	8/1/2011	
GA-B	Lake WA Tech - Allied Health Bldg.	06-073	$19,000,000	71,900	Bob Kacel		2/1/2008	2/1/2008	7/1/2008	11/1/2008	4/1/2011	
GA-B	North Seattle CC - Intergrated Services Center	06-132	$15,552,000	45,052	Linda Colasurdo		6/1/2007	10/1/2007	5/1/2008	8/17/2010	6/1/2011	
GA-B	North Seattle CC - Technology Building Renewal	08-177	$16,000,000	48,745	Linda Colasurdo		8/16/2010	8/16/2010	11/1/2010	10/1/2011	5/1/2013	
GA-B	South Seattle CC - Colin Building Expansion	10-063	$3,600,000	10,000	Jonathan Martin			3/29/2010	6/14/2010	8/31/2010	3/1/2011	
GA-B	Seattle Central CC - Wood Construction Center	08-063	$19,600,000	57,229	Lee Knawa		1/1/2008	1/1/2008	6/6/2009	1/1/2009	10/1/2011	
GA-B	Skagit Valley CC - Science Bldg.	05-200	$21,157,000	65,900	Bob Colasurdo		12/13/2006	4/1/2006	10/1/2006	10/1/2007	11/1/2008	8/1/2010
GA-B	Skagit Valley CC - Academic & Student Support Building	07-236	$25,433,000	64,230	Bob Colasurdo		9/1/2009	9/1/2009	2/1/2010	6/1/2010	10/1/2011	
GA-B	Spokane CC - Tech Ed Building	07-132	$19,804,000	70,000	Eric Benson		4/1/2008	4/1/2008	6/15/2008	11/24/2009	3/6/2011	
GA-B	Spokane CC - Buiding 7	07-133	$6,405,000	31,571	Eric Benson		12/26/2007	5/7/2008	3/18/2009	5/13/2009	11/10/2010	
GA-B	Spokane Falls CC - Music Building	07-134	$9,607,000	47,571	Eric Benson		5/8/2008	5/8/2008	6/10/2008	7/1/2009	1/22/2011	
GA-B	Spokane Falls CC - Classroom Bldg.	07-148	$12,825,910	51,143	Eric Benson		12/12/2006	9/1/2007	4/13/2008	11/1/2009	12/30/2012	
GA-B	Spokane Falls CC - Business and Social Science	04-192	$14,347,980	70,533	Eric Benson						8/1/2008	Dec-08
GA-B	Spokane Falls CC - Early Learning Center	07-149	$2,960,000	16,000	Eric Benson		12/1/2006	9/1/2007	1/27/2008	5/27/2008	12/30/2012	
GA-B	Spokane Falls CC - Science Building	07-150	$19,547,000	69,825	Eric Benson		2/15/2008	6/30/2008	1/30/2009	5/30/2009	2/25/2011	
GA-B	Walla Walla CC - Clarkston Health Sciences	05-162	$2,252,000		Dave Combs	10/12/2006	11/30/2004	8/12/2005	12/20/2005	5/15/2006		
GA-B	Walla Walla CC - Center for Water and Environ. Studies	05-210	$2,000,000	10,500	Dave Combs		11/30/2004	9/27/2005	1/15/2006	4/10/2006		
GA-B	WSP - FTA Dormatory	07-203	$1,900,000	9,484	Jonthan Martin	9/2/2008						
GA-B	Yakima Valley CC - Grandview Library	09-172	$3,116,878	12,553	David Lohrengel		9/1/2009	12/7/2009	3/1/2009	8/9/2010	6/30/2011	
GA-B	Yakima Valley CC - Brown Dental Renovation	07-155	$3,898,000		David Lohrengel	5/19/2008	11/21/2007	11/21/2007	1/2/2008	4/2/2008	7/1/2009	
DOC	Coyote Ridge Corrections Center	06-313	$190,000,000	564,000	Jack Olson		8/24/2006		11/21/2006	1/1/2007	11/31/08	Jun-10
DOC	WSP - South Close - Voc Ed Building	06-314	$8,351,351	22,400	Nanette Graham		7/9/2007	7/18/2007	12/5/2007	4/10/2008	6/29/2010	
DOC	WSP - South Close - Warehouse	06-314	$5,280,384	21,600	Nanette Graham		7/9/2007	7/18/2007	12/5/2007	4/10/2008	6/29/2010	
DOC	CCCC - 100 Bed Expansion	06-330	$4,878,336	16,300	Ed Hampton		12/1/2006	10/16/2007	11/26/2007	1/21/2008	7/6/2009	
DOC	WSP - South Close - Health Unit	06-314	$22,931,500	49,022	Nanette Graham		7/9/2007	7/18/2007	12/5/2007	4/10/2008	6/29/2010	
DOC	MCC - Hazardous Waste/Vehicle storage	06-305	$1,403,990	6,000	Tom Davis		6/8/2006	10/23/2009	2/5/2010	7/30/2010	6/1/2012	
DOC	MCC - Warehouse Facility	06-305	$5,985,000	26,000	Tom Davis	On Hold	6/8/2006	10/23/2009	2/5/2010	7/30/2010	6/1/2012	
DOC	MCC - Health Care Facility	06-305	$39,031,010	113,400	Tom Davis	On Hold	6/8/2006	12/11/2009	7/16/2010	5/23/2011	6/1/2014	

Project Information		Project No.	Construction Cost Estimate	Project Square Footage	Project Manager	Submittal Received (Note: Dates not shaded are anticipated submittal dates.)						LEED Certification
Project Mgt.	Project Name					Exemption	Pre-Design	Schem. D.	Design Dev.	Const.Doc.	Post-Const	Awarded
DOC	WCCW - Health Care	06-309	$11,864,719	22,130	Dwight Hollar		5/24/2006	8/1/2006	11/13/2006	3/13/2007	1/1/2010	
DOC	WCC - Health Care Facility Remodel	06-305			Diana Cannon	On Hold	6/7/2006	6/12/2006	9/19/2006	11/15/2006	5/1/2007	
DOC	AHCC - Minimum Security Beds (200)	06-311	$868,000	116,000	Anna Crickmer		4/12/2006	4/12/2006	6/1/2006	7/15/2006	9/1/2008	
DOC	AHCC - New Visitation Building	06-311	$1,975,000	6,100	Anna Crickmer			6/12/2006	1/15/2007	5/20/2007	9/1/2008	
DOC	AHCC - Treatment Program Building	08-300	$3,100,000	9,510	Anna Crickmer			12/15/2007	5/15/2008	7/15/2008	6/15/2009	
DOC	MCCW - 120 Bed	06-312	$2,939,189	12,800	Ed Hampton	7/13/2007						
DOC	MCCCW - 100 Bed Housing Unit	08-303	$4,033,163	12,800	Ed Hampton		10/16/2007	11/26/2007	1/21/2008	6/23/2008	10/15/2009	
DOC	WCC - Expand Reception Center	08-314	$46,265,000	87,583	Diana Cannon		8/15/2009	2/15/2010	9/15/2010	7/1/2011	7/15/2013	
DOC	WSP - 300 Bed Minimum Expansion	06-327	$47,169,000	105,536	Nanette Graham	On Hold	7/1/08	11/12009	10/30/2009	7/15/2015	9/1/2016	
DOC	Statewide - 300 Bed Minimum Expansion	06-327	$38,660,000	90,229	Nanette Graham		6/30/2008	12/30/2012	2/28/2013	4/30/2013	9/30/2014	
DOC	WSP - MI Kitchen	06-307	$37,487,140	65,089	Nanette Graham	Dropped	6/30/2008	11/30/2009	3/1/2010	5/30/2010	4/30/2013	
DSHS	McNeil Is. - Special Commitment Center	06-465	$3,961,603	53,000	Rich Christian		10/16/2007	11/26/2007	1/21/2008	6/23/2008	7/6/2009	
DSHS	Echo Glen - Residential Housing Units Renovations	00-405	$28,850,000	18,320	Terri Sinclair-Olson		8/14/2006	4/1/2008	10/1/2008	10/27/2008	12/31/2009	
DSHS	Green Hill School - HCA Building	06-481	$4,300,000	20,275	Terri Sinclair-Olson		8/14/2006	8/1/2006	8/1/2006	12/1/2006	10/26/2009	
DSHS	Green Hill School - IMU Building	06-481	$4,200,000	12,000	Terri Sinclair-Olson	8/26/2008	8/21/2006	7/1/2006	10/1/2006	2/1/2007	10/26/2009	
DSHS	WSH - New Kitchen & Commissary	08-409	$4,400,000	50,000	Rich Christian							
DOT	Alaska Way Viaduct Tunnel Operations Building										6/1/2015	
DOT	SR 520 Bridge Mantenance Facilities										7/1/2013	
DOT	Eagle Harbor Maintenance Facilities					7/30/2007					5/1/2011	
DOT	Anacortes Ferry Terminal										TBD	
DOT	Mukilteo Ferry Terminal										TBD	
DOT	Seattle Ferry Terminal										TBD	
DOT	Bainbridge Island Ferry Terminal					On Hold					TBD	
DOT	Olympic Regional HQ					On Hold					TBD	
UW	Business School, Phase 2 (Balmer Hall)		$46,800,000	60,000	Brian Berard		3/24/2008			10/1/2010	7/1/2012	
UW	Playhouse Theater Renovation	200912	$5,660,000	13,554	Randy Everett		7/31/2006	6/1/2006	11/1/2006	3/1/2007	7/1/2008	
UW	Clark Hall Renovation	200910	$9,000,000	30,541	Steve Tatge		7/31/2006	8/1/2006	1/1/2007	8/26/2008	12/1/2008	
UW	Savery Hall Renovation		$36,200,000	102,105	Brian Berard		7/25/2006	7/1/2006	3/1/2007	7/1/2007	6/1/2009	
UW	UWT Assembly Hall (William W. Philip Hall)		$9,400,000	20,000	Catherine Vogt		8/3/2006	6/1/2006	12/1/2006	4/1/2007	8/1/2008	
UW	Denny Hall Renovation		$56,915,000	87,549	Randy Everett		4/1/2008			12/1/2008	7/1/2011	
UW	Ethnic Cultural Center										3/1/2012	
UW	Burke Museum										1/1/2015	
UW	House of Knowledge											
UW	Anderson Hall											
UW	Lewis Hall Renovation		$25,130,000	33,736	Ken Kubota		4/1/2008	8/1/2008	12/1/2008	9/1/2009	12/1/2010	
UW	Molecular Engineering Interdisciplinary Academic Bldg.		$62,500,000	52,000	Steve Tatge		4/1/2008	4/1/2008	9/1/2008	12/1/2008	10/1/2011	
UW	Bothell Campus - Phase 3 - New Academic Building										11/30/2012	
UW	Tacoma Campus - Phase 3 - Joy Building Remodel										1/31/2011	
UW	Tacoma Campus - Phase 3 - Jefferson Avenue Building										2/22/2012	
WSU	Undergraduate Classroom Building - Vancouver											
WSU	Olynpia Avenue Student Housing Project									6/27/2008		
WWU	Academic Instruction Center										8/31/2009	
WWU	Buchanan Tower Addition										9/1/2010	
WWU	Miller Hall Renovation	PW465	$35,801,240	133,117	David Willett		2/11/2008	2/11/2008	4/23/2009	10/6/2009	10/31/2011	
EWU	Hargreaves Hall Renovation	AE0511	$9,292,000	45,172	Jim Moeller		9/13/2006	1218/06	4/9/2007	1/7/2008	2/27/2009	
EWU	Patterson Hall Renovation	AE0614	$41,266,000	139,900	Jim Moeller		6/2/2008	6/2/2008	4/6/2009	1/4/2010	4/29/2013	
EWU	Student Recreation Center										2008	2008
EWU	Martin/Williamson Hall Remodel					On Hold	2011				2013	
EWU	University Science Center											
CWU	IET/Hogue Technology Project											
CWU	Dean Hall Renovation	5229	$18,038,328	79,553	Joanne Hillemann		4/4/2006	4/4/2006	3/21/2007	9/14/2007	5/10/2008	
TESC	College Activities Bldg Add. & Renovations	07-05	$14,000,000	100,500	Dick Clintworth		11/1/2008	4/1/2008	9/1/2008	1/1202009	6/1/2010	
TESC	Daniel J Evans Library Modernization - Phase 2	F06007	$14,323,000	87,000	Hal Van Gilder		3/16/2007	9/10/2006	3/7/2007	1/28/2008	11/1/2008	
		Totals	$1,933,613,184	5,658,730							**No. of LEED Projects that are Certified:**	**20**

Key	Points
LEED Platinum	52+
LEED Gold	39-51
LEED Silver	33-38
LEED Certified	26-32
Projects Dropped or On-Hold	
This project will not seek LEED certification or follow GA QA process	

In Desgin =	27
In Construction =	28
Occupied, but not yet LEED Certified =	23

Figure 1 – LEED Buildings – Cost per Square Foot shows the building cost/square foot (building only, doesn't include site preparation costs) and the LEED level achieved. The cost of a building is influenced by: the type of use; complexity of the building systems; size: choice of materials; time of year bid; and if the bid was before or after the current the economic downturn.



Key: Orange=LEED Silver, Yellow=LEED Gold, Green=LEED Platinum

Figure 2 – Percent Added Cost of LEED shows these same buildings and an estimate of the added costs for LEED-related elements as a percentage of the overall project costs (consultants and construction). These added costs were estimated by the state project managers, the architect consultant on the project, and the contractor. The added costs include:

- LEED-related consultant fees
- LEED certification fees
- LEED-related construction costs

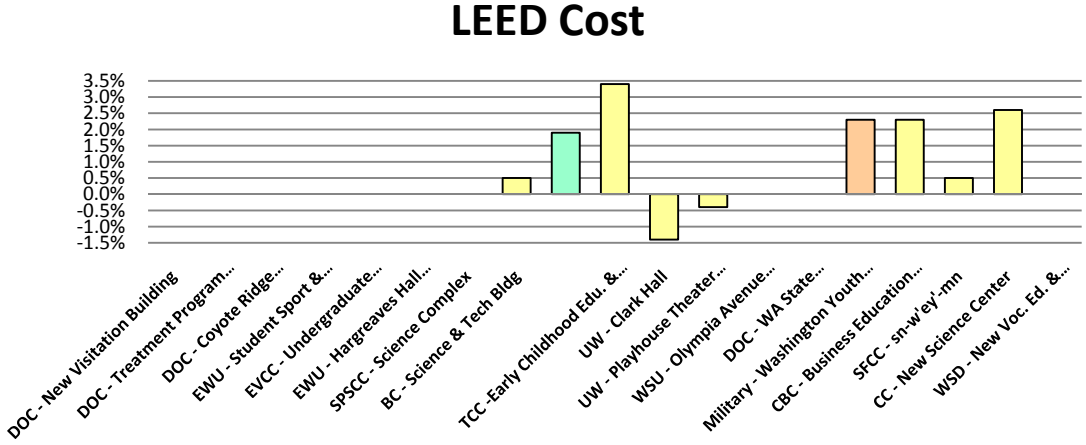


Figure 3 – Percent Energy Cost Savings of state LEED buildings compares the computer modeled "proposed" building consumption cost against modeled consumption cost data of a "code" building. This data was extracted from the LEED submittal.

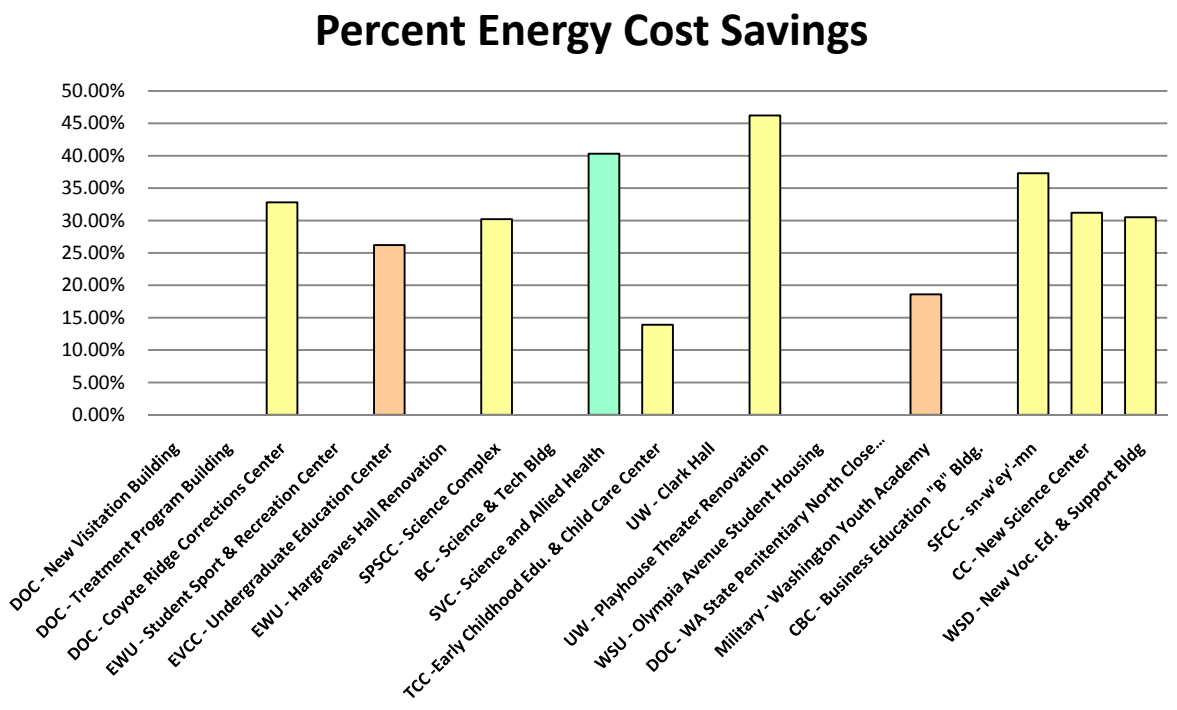


Figure 4 – Percent Water Cost Savings in State LEED Buildings (Interior) compares interior water usage calculated for a "code" building and the "proposed" building. The interior water consumption is tied to the number of occupants. The numbers used to calculate the code and proposed levels may be quite different from the actual use levels. So, for instance, if there are more actual occupants than modeled, the water use would be higher but the same percentage of saving would still be realized due to the efficiency of the fixtures.

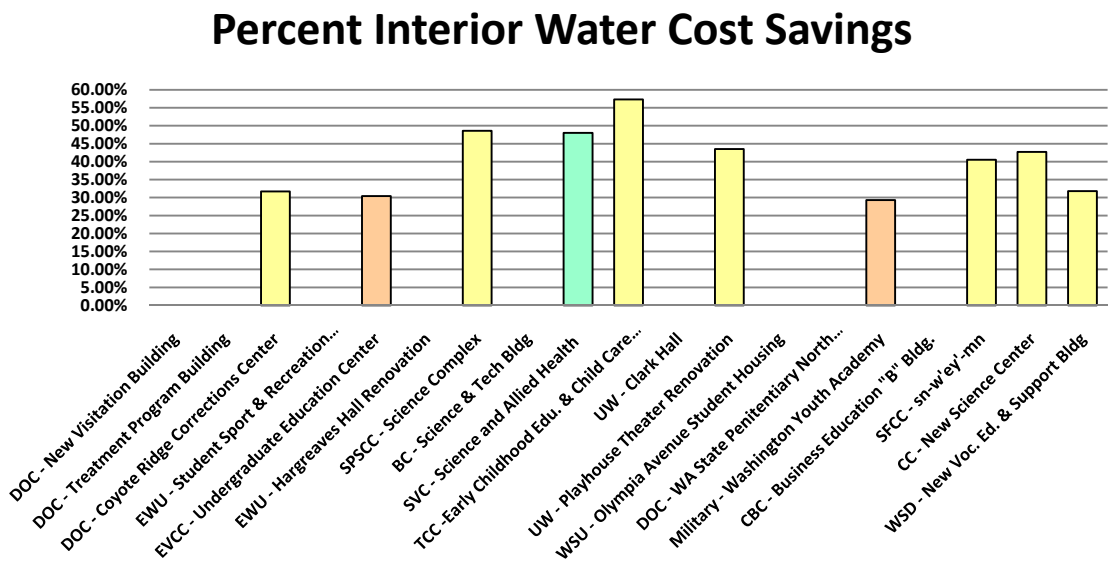
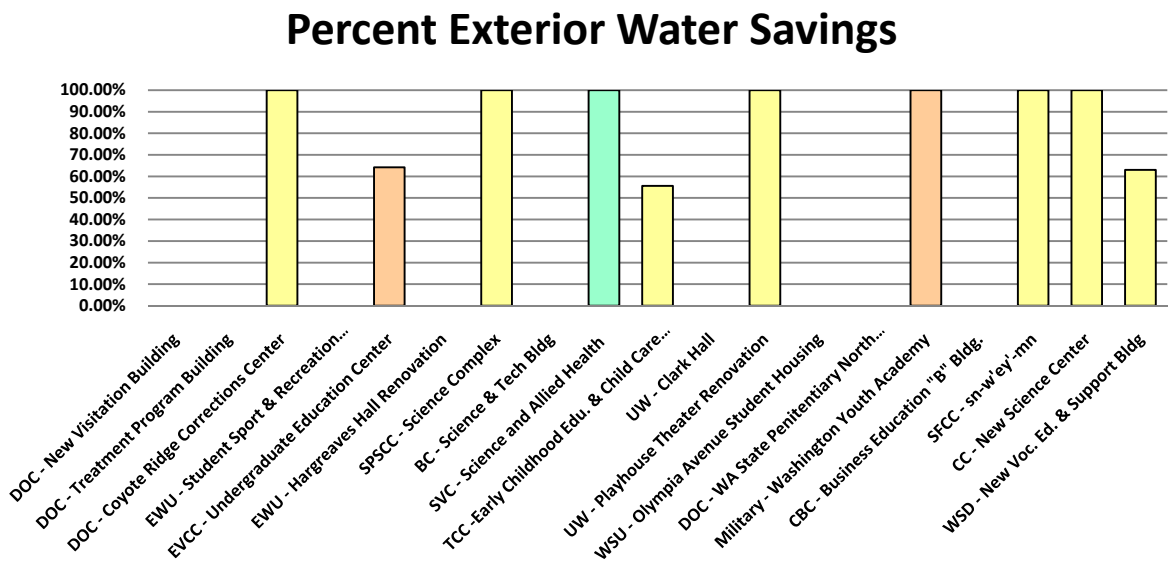


Figure 5 – Percent Water Cost Savings in State LEED Buildings (Exterior) compares exterior water usage modeled for a "code" building and the "proposed" building.



Key: Orange=LEED Silver, Yellow=LEED Gold, Green=LEED Platinum

The added or reduced cost of LEED buildings is shown is **Table 4 – Cost and Savings of State LEED Buildings**. Costs were captured through a combination of working with state project managers, project architects and general contractors. Some additional savings may have been realized through utility incentives, which offset first costs. Energy and water savings are used to establish a payback for the costs related to LEED.

Table 4 – Cost and Savings of State LEED Buildings

Building Name	Agency	SF	Total Cost	%Added Cost	Incentive	Savings	Payback (Years)
Coyote Ridge Corrections Facility	Washington State Department of Corrections	564,000	$18,9994,680			$376,626.19	
Undergraduate Education Center	Everett CC	86,000	$20,999,480			$20,489.36	
Natural Sciences Complex, SPSCC	South Puget Sound CC	66,990	$18,546,500			$47,985.35	
Science & Technology Building	Bellevue CC	62,882	$30,642,760	0.5%	0	$3,695.50	
Science & Heath Building	Skagit Valley College	65,230	$25,140,200	1.9%	$254570	$43,496.13	5.1
Early Learning Center	Tacoma Community College	12,962	$56,61,665	3.4%	0	$2,947.60	64.91
UW - Clark Hall	University of Washington	30,568	$15,619,920	-1.4%	0		
UW Floyd and Delores Jones Playhouse	University of Washington	12,692	$9,687,248	-0.4%	0	$10,481.40	0
Washington Youth Academy	WA State Military Dept.	18,050	$40,57,873	2.3%	0	$3,695.50	25
Business Education "B" Building	Columbia Basin College	24,000	$7,381,611.86	2.3%	0	0	
sn-w'ey'-mn	Spokane Falls CC	70,533	$1,532,1972	0.5%	0	$33,166.95	24.22
New Science Center	Centralia College	69,984	$2,4190,252	1.5%	0	$33,239.95	10.78
Vocational Education & Support Bldg.	WA State School for the Deaf	23,444	$8,432,819			$11,037.43	

Studies have shown in addition to utility cost savings, significant savings may be realized by improvements in productivity and through retention of workers. Anecdotal evidence suggests that reduced sick days and reduced risk of worker lawsuits due to sick-building syndrome caused by high volatile organic compounds, such as formaldehyde, represent additional valuable benefits realized with LEED buildings. These savings can potentially far outweigh energy and water savings, but are much harder to quantify.

Overview of the GA LEED Quality Assurance Process

The GA LEED Quality Assurance process (see appendix 2) was developed with the help of the original Affected Agencies Committee (see appendix 3). The process provides GA with a minimum level of information to track the progress of a project through design and construction. The process allows for "*verifying activities necessary for certification to at least the LEED silver standard for major facilities.*" It also ensures that proper metering be installed for energy and water consumption reporting. It also gives state project managers the proper information to make sure their project is on track to achieve at least LEED Silver.

The GA LEED QA process is made up of easy-to-complete templates and specific LEED documents. Dissemination through GA's Green Building web page and education provided to the state project managers has integrated the GA LEED QA process into the state design and construction process. Additional effort by consultants and state project managers is minimal.

The GA LEED QA process requires the following:

- **At Schematic Design:** A half-page template with basic project size and cost information, and main contacts. A LEED checklist is also submitted.
- **At Design Development:** An updated LEED checklist and a two- to four-page description of how the project will meet the goals set in the LEED checklist, especially for energy and water efficiency goals.
    - A new step will be offered at design development in the GA LEED QA process to extend the use of an energy service company (ESCO) for major projects. This can benefit an agency by having the ESCO complete the energy evaluation as part of the project design. Projects can benefit from additional cost-effective measures identified and larger utility incentives.
- **At Construction Documents:** An updated LEED checklist and an updated two- to four-page strategies summary of how the project will meet the LEED goals set in the checklist. A metering plan is also submitted. A metering plan template is provided. (See appendix 5)
- **At Post-Construction:** Project cost data, added or saved costs related to LEED separated by consultant costs and construction costs are available from the invoice. The added or saved construction costs are sometimes difficult to determine because of the integrated nature of green building design. Some features can easily be estimated, such as solar panels or a bike rack. Others can be more difficult, such as use of operable windows and skylights, features which may be added to the design for other reasons. This data is collected from the state project manager and project architect.

  The savings data and other LEED benefits data are collected by "mining" the LEED submittal. This is accomplished by being "invited" into the project and then to be assigned as a "Project Team Manager." This provides access to all the energy and water savings calculations, construction waste management data, and other metrics. For additional explanation of the importance of the green building metrics tracked by GA see section 9 in this report.

  GA has established contacts at each of the agencies and universities (see appendix 3). These contacts are used to disseminate information regarding the GA LEED QA process and to coordinate training that GA provides.

  In addition, a case study will be developed for each project. A state LEED Project Case Study Gallery is included in this report in appendix 1 and will be displayed on the GA web site, as well: www.ga.wa.gov/eas/green

Establishing Project Metering Requirements to Measure Savings

The GA Green Building Program recommends installing metering devises on the main electrical service coming into the building to measure the total electricity consumed. To capture the heating energy either a pulser should be placed on the gas meter, which provides a signal to the building automation system for a building with boilers or with a BTU meter installed on the hot water line or steam condensate line when the building is fed by a central plant.

To ease reporting, it is recommended that the meters be connected into the Energy Management Control System so that trend logs could be set up in the system. This will allow for easy monthly downloads for annual reporting by the agencies and universities to GA as defined in the statute. Water is also metered and reported in a similar way. Consumption reports of energy and water can determine the savings. We will also be able to make ongoing comparisons with like facilities in the state. This kind of feedback will help operators identify additional savings through the sharing of operational strategies. GA will help facilitate this effort through the posting of energy and water consumption summaries and case studies.

The Energy and Water Saving Reporting Form (see appendix 6) is available with the added requirement to submit this data to Energy Star. In response to ESSB 5854 GA will be able to collect the consumption data for legislative reporting purposes through Energy Star. From the data submitted, GA will be able to quantify energy and water savings, energy generated by renewable energy projects, water captured for use in the projects, and reclaimed water used, when applicable.

Training Project Managers and Owner's Representatives

Education is important to the success of the entire implementation effort. Training related to LEED is an ongoing effort for project managers. Periodic training of state project managers regarding LEED and the GA LEED QA process is provided. However, this has been one area where GA has had to cut back due to reduced trainer availability.

GA Partners with Ecology and WSU Extension - Energy Program

GA partnered with Ecology's Green Building program on several efforts. This collaboration has led to the identification of several areas that require attention to further the success of the green-building efforts in Washington facilities affected by RCW 39.35D. These include the following:

- ***Collaborated with the Cascadia Regional Green Building Council on training.***

  GA and Ecology have coordinated with the Build-It LEED training program which was developed by O'Brien and Company in conjunction with the Cascadia Regional Green Building Council. The Build-It LEED training is geared to contractors to inform them of their responsibilities related to the LEED process. This is a two-hour training that also uses a comprehensive Excel Workbook to help the contractor organize the data collection process for LEED. Also included are sample templates for development of a construction waste management plan, a construction indoor air quality plan, and other useful tools needed for a successful LEED project.

  GA and Ecology negotiated free use of the materials and received "train the trainer" instruction from O'Brien and Company, at no cost.

- ***Collaboration with the Construction Center of Excellence, Renton Technical College.***

  GA recognizes an important opportunity to work with the technical colleges and apprenticeship programs of Washington to educate students on green building principles and trends. GA and Ecology have teamed up with the Construction Center of Excellence at Renton Technical College to provide a green building presentation.

This collaboration developed a 12-minute DVD that Washington technical colleges and apprenticeship programs use as an educational tool to inform audiences of the demands for green building and to encourage new trades students. The DVD —"GREEN BUILDING – Jobs of the Future" is available at GA's green building web page: www.ga.wa.gov/eas/green

- ***GA and WSU Extension – Energy Program (WSU Energy) have collaborated on development of a Post Occupancy Evaluation (POE) process.***

  WSU Energy is assisting GA in the development of a Post-Occupancy Evaluation process that will be used for state LEED projects. The focus of the effort is to gather energy and water consumption information and maintenance-related information, and perform an occupant survey for each project. This would be performed 10 to 15 months after occupancy. GA and WSU Energy worked with the New Buildings Institute (NBI) in the pilot phase of this effort. In 2008, NBI was commissioned by the U.S. Green Building Council to perform a post-occupancy evaluation of LEED projects from across the United States and evaluated over 100 LEED projects. Collaboration with NBI to use its survey and data was helpful to ensure that Washington used a tool that is widely accepted and can be used to make comparisons across the country.

  GA and WSU Energy worked with four LEED projects during this pilot phase, which was completed in 2009 (see appendix 8 for reports).

LEED Training for Contractors

GA recognized early in the process that contractors are critical to the success of LEED projects. Architects are selected based on their knowledge of LEED and qualifications. Contractors are selected based on their bid, not necessarily on their knowledge of LEED. To meet this challenge, it was determined that the state could require the successful contractor to have either experience with LEED or be required to participate in a free training.

GA partnered with Ecology and the Cascadia Regional Green Building Council to develop the Build-It LEED Toolkit, a training program geared for the contractor. The toolkit consists of a two-hour presentation, an interactive Excel workbook and notebook. GA's green building advisor provides the Build-It LEED training to contractors. Over the past two years, GA has given more than eight free trainings to contractors, project managers and owners' representatives.

Building Operator Interview (Proposed)

Green buildings are often a mixture of systems that respond to natural forces of daylight and natural convection, and mechanical HVAC systems and artificial light. These buildings have operating strategies that change based on time of day and time of year. Systems can be automated and designed for occupant involvement. As a result, it is important that building operators and occupants understand these systems and the strategies to maximize comfort and efficiency. Visits to some of the early state LEED projects have shown that green buildings are not always operated optimally. This can lead to higher energy use and uncomfortable occupants.

In an effort to improve building performance and occupant comfort, GA is proposing that it perform a building operator interview after the building has been occupied for two to four months. This would include the following:

- Review of building operations manuals (if developed).
- Review of case study to learn about green features of the building.
- Interview with building operator to determine if they are familiar with the green features and strategies for operation.
- Review the schedules and strategies incorporated into the Building Automation System with the building operator to also determine proficiency with that system.
- GA would develop a summary report for the building operator. It would include appropriate recommendations for improvement. A copy would be kept in the electronic file on that building.

This effort cannot be supported with current staff levels at GA and would take at least a .25 FTE to accommodate building reviews and reporting.

Post-Occupancy Evaluation (Proposed)

GA has collaborated with WSU Extension – Energy Program to develop a Post Occupancy Evaluation (POE) process, as described on page 14. The POE evaluates the human side of buildings, related to improved occupant performance.

The process will be a valuable tool for GA to evaluate the effectiveness of the green building effort and to share these experiences throughout the state. The reports developed from the evaluation of each state LEED building would provide energy and water savings information, maintenance-related impacts and occupancy survey results. These reports would be posted as case studies on the GA green building web site.

The POE process would be implemented between 10 to 15 months after occupancy. Performing the POE before 12 months would help to identify issues before they exceed the warranty period.

This effort cannot be supported with current staff levels at GA and would take approximately .25 FTE.

Rules

The Attorney General's Office has determined that rules are not currently needed for implementation of RCW 39.35D. GA has developed guidelines for tracking the progress of projects through the GA LEED quality assurance process and uses this tool to make sure proper attention is given to LEED issues throughout the project design and construction.

Green Building Metrics

One of the challenges of measuring the benefits of green building is development of metrics to report. The important attributes and where this data is found in the LEED process and the GA LEED QA process are spelled out below:

Building Square Footage & Cost:

Building square footage and cost, along with building type and use are important elements to consider when comparing buildings. The added cost related to LEED is also important in determining the cost-effectiveness of LEED buildings. Overall cost per square foot allows for comparing buildings of different size in a common unit of measure. This data is available in the LEED Project Summary, but it can also be retrieved by state project managers.

High performance green buildings help the state achieve a number of goals, including:

- Energy efficiency and reduced reliance on imported energy.
- Water efficiency to stretch resources.
- Reduced stormwater runoff into streams, rivers, lakes and Puget Sound.
- Reduced reliance on the automobile, which lessens traffic congestion and the carbon footprint.
- Reduced construction waste going to landfills.
- Increased use of recycled materials.
- Use of Washington-made products and materials.
- Protection of forests and habitat.
- Improved worker and occupant health and productivity.

Energy Efficiency and Renewable Energy Production:

Energy efficiency and local production of renewable energy provides multiple benefits by:

- Lowering operating costs.
- Reducing emissions from energy sources (mostly electric and gas) which lower greenhouse gas impacts.
- Improves local economy (energy dollars saved and earned may stay local).
- Reduces energy imports.

Applicable LEED Credits:

- EAc1 – Optimize Energy Performance *(percent energy cost savings, percent energy Btu savings, kWh & therms, or other fuels/year)
- EAc2 – On-Site Renewable Energy (kWh and/or Btu/year)

*Data collected from LEED submittal shown in parentheses after Applicable LEED credits.

Water Efficiency:

Water efficiency is important as we face shortages. Efficient use of water can also provide these benefits:

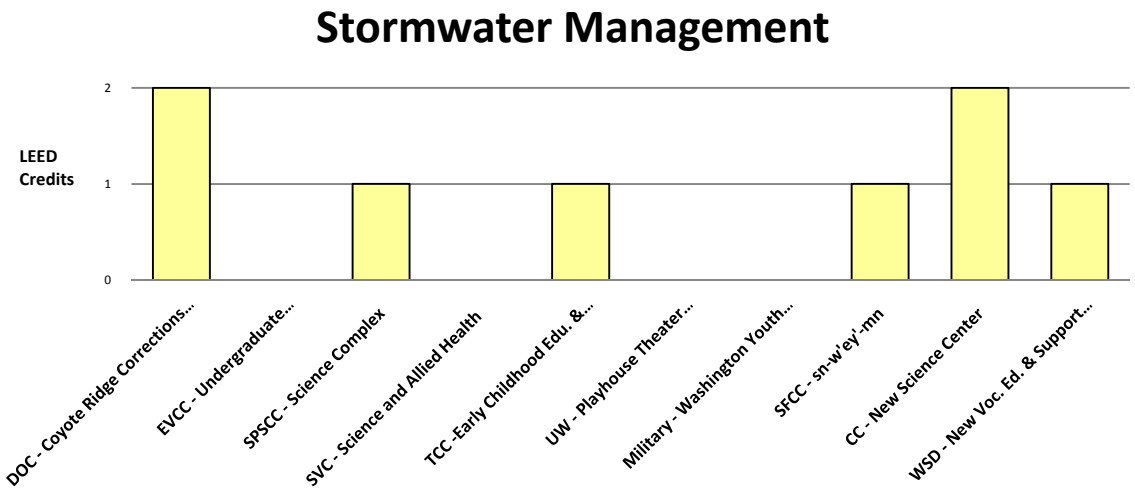
- Lower operating costs.
- Improved water availability for other uses.
- Greater capability of existing supply infrastructure to serve expanding customers.
- Reduced need for expansion of waste water treatment facilities.

Applicable LEED Credits:

- WEc1 – Water Efficient Landscaping (percent water savings and gallons)
- WEc2 – Innovative Wastewater Technologies (0 or 1 point)
- WEc3 – Water Use Reduction (percent water savings and gallons)

Stormwater Management:
In an effort to clean up streams, rivers, lakes and Puget Sound, Washington is aggressive on management of stormwater. This is critical to protect salmon and other fish habitat, and helps serve as another measurement of the overall health of the environment.

Applicable LEED credits:
SSc6 – Stormwater Design (0, 1 or 2 points)



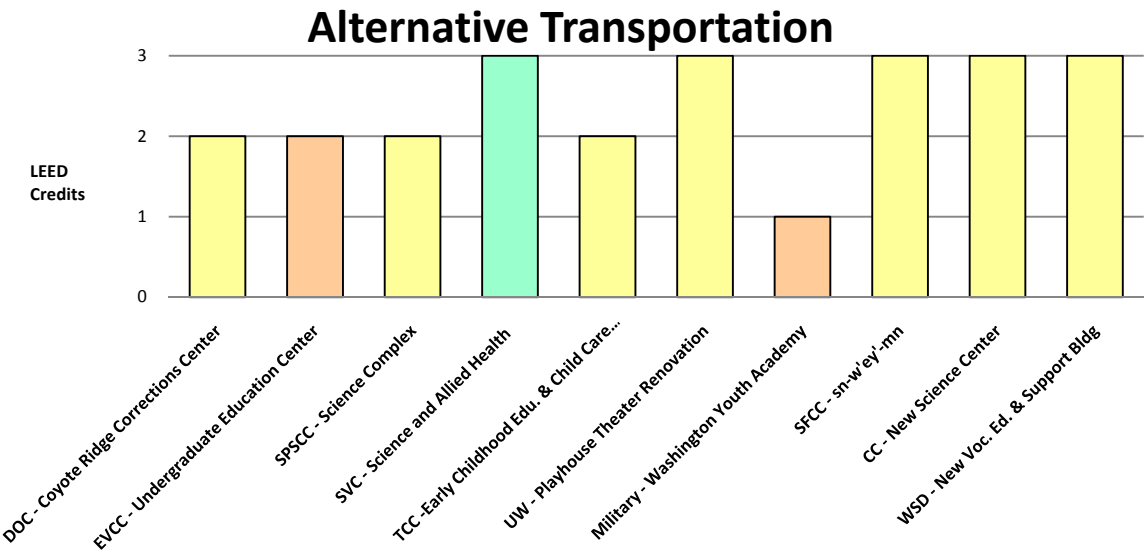
Key: Orange=LEED Silver, Yellow=LEED Gold, Green=LEED Platinum

Alternative Transportation Sources:

The urban areas of Washington suffer from traffic congestion. Transit options can ease this burden and improve air quality by reducing emissions from vehicles. The use of bicycles can also help reduce vehicle traffic and cut emissions while improving the health of building occupants. Walking access to services such as restaurants, banks, stores, etc., also improves building occupant health and reduces congestion.

Applicable LEED credits:

- SSc2 – Development Density & Community Connectivity (0 or 1 point)
- SSc4.1 – Public Transportation Access (0 or 1 point)
- SSc4.2 – Bicycle Storage & Changing Rooms (0 or 1 point)



Construction Waste Recycling:

Nationwide, over 40 percent of the waste going to landfills is from construction waste. Recycling of this waste can:

- Extend the life of landfills.
- Provide a source of other materials and products.
- Reduce the impacts of extraction of raw materials.

Applicable LEED credits:

- MRc2 – Construction Waste Management (percent recycled and tons)

Building Name	Location	Agency/University	Tons	% Recycled
Coyote Ridge Corrections Facility	Connell	WA State Department of Corrections	6,206.38	96.20%
Undergraduate Education Center	Everett	Everett CC	963.54	97.10%
Natural Sciences Complex, SPSCC	Olympia	South Puget Sound CC	418.3	96.30%
Science & Heath Building	Mount Vernon	Skagit Valley College	749.1	97.10%
Early Learning Center	Tacoma	Tacoma Community College	250	99.70%
Floyd and Delores Jones Playhouse	Seattle	University of Washington	129.58	95.80%
sn-w'ey'-mn	Spokane	Spokane Falls CC	1,600.9	90.50%
New Science Center	Centralia	Centralia College	311.74	96.50%
Vocational Ed. & Support Bldg.	Vancouver	WA State School for the Deaf	2,218.64	96.50%

Use of Recycled Content Materials:
Purchase of recycled content materials reduces the demands for virgin materials. This reduces environmental and animal habitat impacts, and creates local jobs by closing the recycle loop.

Applicable LEED credits:

- MRc4 – Recycled Content Materials (percent recycled content materials and cost)

Building Name	Location	Agency/University Name	Dollars	% Recycled Content Material*
Coyote Ridge Corrections Facility	Connell	Washington State Department of Corrections	$ 6,033,971.92	33.10%
Undergraduate Education Center	Everett	Everett CC	$ 873,977.14	18.30%
Natural Sciences Complex, SPSCC	Olympia	South Puget Sound CC	$ 488,484.93	10.40%
Science & Heath Building	Mount Vernon	Skagit Valley College	$ 1,039,281.83	23.80%
Early Learning Center	Tacoma	Tacoma Community College	$ 67,223.48	13.50%
UW Floyd and Delores Jones Playhouse	Seattle	University of Washington	$ 157,647.21	46.20%
sn-w'ey'-mn	Spokane	Spokane Falls CC	$ 638,787.53	18.20%
New Science Center	Centralia	Centralia College	$ 1,589,364.36	29.70%
New Vocational Education & Support Bldg.	Vancouver	WA State School for the Deaf	$ 447,263.76	25.10%

*percent of materials cost (in Divisions 2-10, does not include plumbing, electrical or HVAC equipment).

Use of Regional Materials:
The use of regional materials (within 500 miles of job site) can create the following benefits:

- Create and retain local jobs.
- Keep money in the local economy.
- Reduce the trade imbalance.
- Reduce emissions from transportation of materials and products.

This is the only LEED metric which demonstrates the use of Washington materials (RCW 39.35D.090 – Use of local building materials and products). If a project did not use enough to meet the 10 percent threshold, it was not reported.

Applicable LEED credits:

- MRc5 – Regional Materials (percent regional materials and cost)

Building Name	Location	Agency/University Name	Dollars	%*
Coyote Ridge Corrections Facility	Connell	Washington State Department of Corrections	$ 8,901,376.00	47.10%
Undergraduate Education Center	Everett	Everett CC	$ 1,262,504.20	26.40%
Natural Sciences Complex, SPSCC	Olympia	South Puget Sound CC	$ 417,898.51	35.00%
Science & Heath Building	Mount Vernon	Skagit Valley College	$ 1,090,424.13	25.00%
Early Learning Center	Tacoma	Tacoma Community College	$ 162,562.32	32.70%
UW Floyd and Delores Jones Playhouse	Seattle	University of Washington	$ -	0.00%
sn-w'ey'-mn	Spokane	Spokane Falls CC	$ 791,412.00	62.30%
New Science Center	Centralia	Centralia College	$ 2,932,638.20	54.80%
New Vocational Education & Support Bldg.	Vancouver	WA State School for the Deaf	$ 469,730.12	26.40%

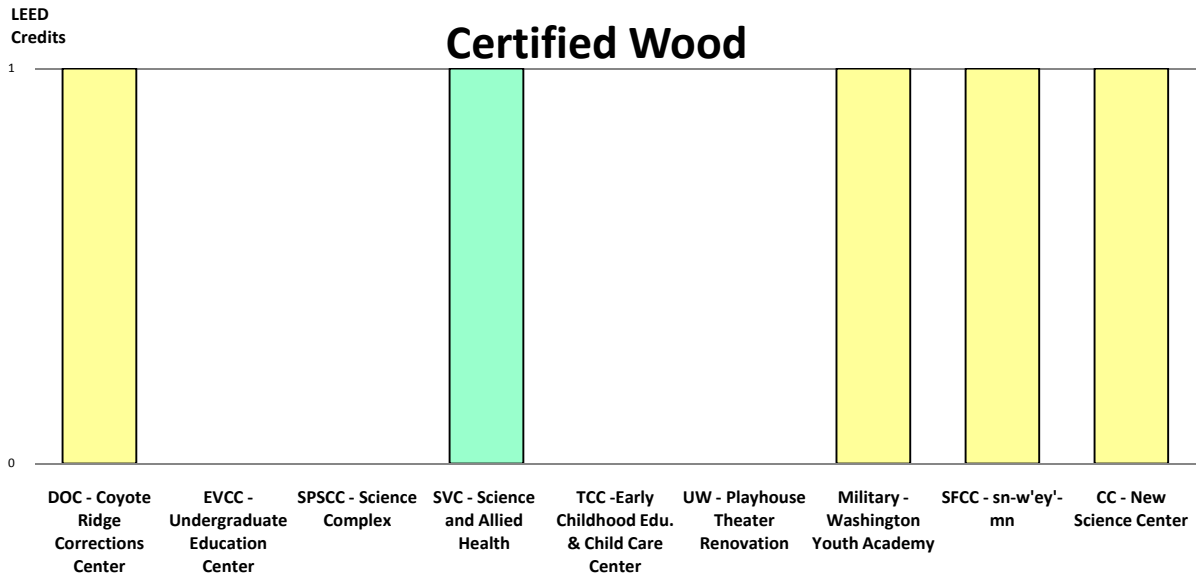
*percent of materials cost (in Divisions 2-10, does not include plumbing, electrical or HVAC equipment).

Protect Forests by Supporting Sustainable Forestry

The purchase of certified wood ensures that the lumber is harvested in a sustainable way and the wood has the chain of custody documentation to prove it. Sustainable forestry practices protect wildlife habitat, streams, rivers and lakes, and guards against excessive soil erosion. This helps protects the natural environment for future generations.

Applicable LEED credits:

- MRc7 – Certified Wood (0 or 1 point)



Key: Orange=LEED Silver, Yellow=LEED Gold, Green=LEED Platinum

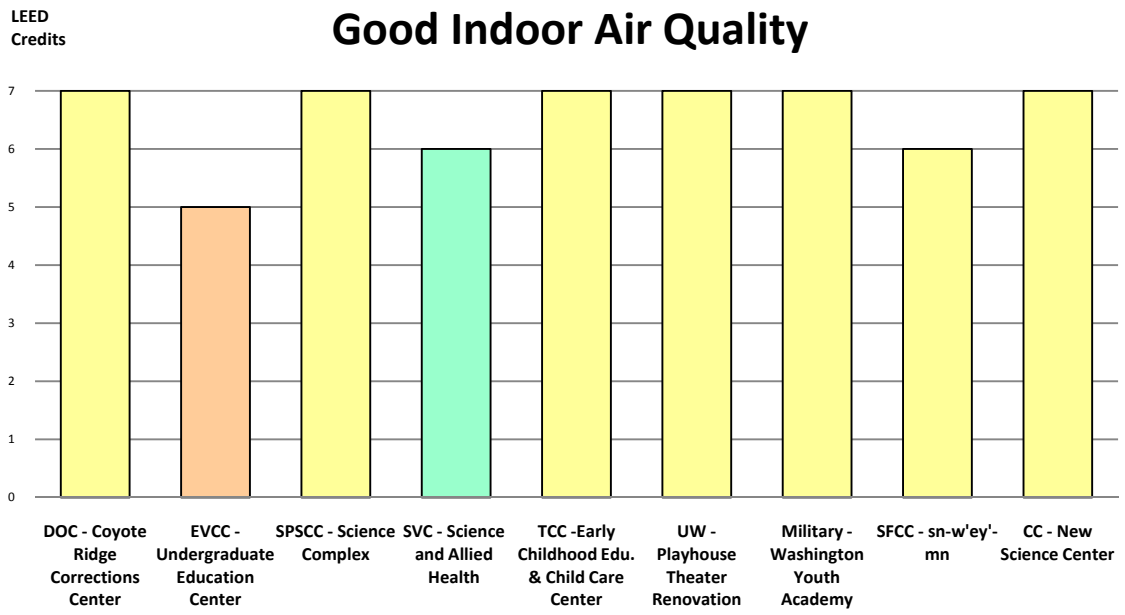
Good Indoor Air Quality:

Good indoor air quality is a key to a healthy work environment, contributing to better worker productivity and reduced sick leave. Factors that can contribute to poor indoor air quality include:

- Dust in the ductwork and equipment from construction.
- Toxic fumes from construction practices absorbed into ceiling tile and carpet.
- Out gassing of materials with toxic fumes.
- Out gassing of copiers and other equipment or activities in the building.

Applicable LEED credits:

- EQc3 – Construction IAQ Management Plan (0, 1 or 2 points)
- EQc4 – Low-Emitting Materials (0, 1, 2, 3 or 4 points)
- EQc5 – Indoor Chemical & Pollutant Source Control (0 or 1 point)

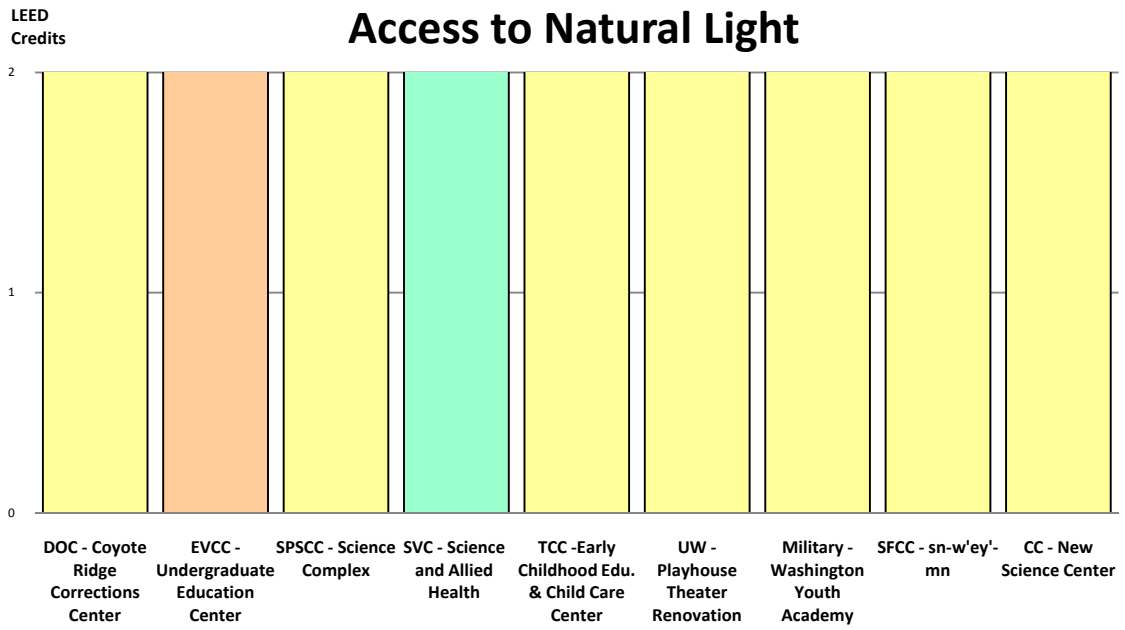


Access to Natural Light:

Access to daylight has been shown to improve worker and student performance. It provides a connection with natural light, which enhances colors and overall visibility. Having access to views can also improve occupant satisfaction and help with worker retention.

Applicable LEED Credits:

- EQc8 - Daylight and Views (0, 1 or 2 points)



Key: Orange=LEED Silver, Yellow=LEED Gold, Green=LEED Platinum

Use of Energy Star in Reporting and Actual Energy and Water Use

Actual energy and water usage was received from five LEED projects. The report forms are found in Appendix 5. The report forms used by GA are comprehensive, and can be onerous for the facility management staff to complete. In response to E2SSB 5854, GA is actively assisting agencies to establish Energy Star portfolio accounts for all buildings over 10,000 square feet. This is an opportunity for the GA Green Building Program to use this mechanism to collect the energy and water consumption data and will save effort at the facilities. Over the next two years GA will refine this process and work with facility management staff.

Agency/University Sustainable Building Reports Summary

Agencies and universities are required to provide biennial reports to GA to show their progress toward sustainability. GA developed a template that is used by the agencies and universities to report green building activities, provide general comments, discuss training efforts and suggest improvements. These reports are found in the Appendix (appendices 11-25).

Exemption Declarations

The exemption declaration process was developed as a means for state organizations with projects to opt out of the LEED Silver certification process. Agencies are given three choices:

1. Pursue a LEED certification at a lower level.
2. Follow through with the GA LEED QA process reports.
3. Do nothing more.

Only seven projects out of 117 have chosen to submit an exemption. GA's green building advisor will work with those agencies to determine possible solutions that would support pursuit of LEED Silver certification, recognizing that the agencies make the final choice. GA does not approve exemptions but includes them in this report. Each agency is responsible for its own exemptions.

Recommendations for Improvement

GA has coordinated implementation of ESSB 5509 for more than five years. In consultation with affected agencies and universities, GA has been instrumental in developing processes for tracking LEED projects, as well as detailed involvement concerning the LEED process. The following is a combination of feedback from agencies about the issues concerning implementation, of the law and knowledge of the state design and construction process.

Issue: Energy efficiency will continue to be a major priority in meeting sustainability standards set by the state. To achieve improved efficiency it is imperative that cost-effective and energy-efficient systems identified in the energy life-cycle cost analysis process be considered in the design. However, capital budget funding can be a challenge. Renewable energy systems also contribute to better efficiency but currently may not be as cost-effective.

Recommendation A: Provide capital funds to supplement projects to increase energy efficiency. GA could assist with implementation of an incentive program through review of proposals as part of the energy life-cycle cost analysis process. The analysis encourages energy efficiency by evaluating the total cost of ownership of several competing design alternatives. The intent is to help build cost-effective public facilities.

Recommendation B: Establish a requirement that one-half of 1 percent of the maximum allowable construction cost be used for renewable energy systems, as defined by LEED.

Discussion: The most cost-effective time to implement energy efficiency measures in the life of a building is at the time of design. An incentive applied to a project based on the analysis report could fund additional energy efficiency that may have been outside the original budget. More consistent funding of renewable energy projects would help contribute to a more stable renewable energy market, creating more experienced designers and installers. This will not only stimulate more green jobs, but enhance competition. As renewable energy technology lowers in price, Washington will be poised to respond to the demand for these systems. Renewable energy systems installed on state projects are also critical to achieving the carbon reduction goals set by E2SHB 2815, which the Legislature enacted in 2008.

Issue: For smaller projects, the administrative cost to seek LEED certification is a much higher percentage of the total project cost than for larger projects. As a result, some of the smaller projects must opt for an exemption from the process or cut program from the project.

Recommendation: Provide additional capital funding to cover the administrative costs for LEED certification funding for smaller projects (between 5,000 and 10,000 square feet). Since many LEED documentation costs are nearly the same as for much larger projects, the costs for consultant fees related to LEED documentation preparation can be a burden to the smaller projects. The additional funds would result in smaller projects that don't have to compromise design and construction to implement LEED, thus reaping the benefits.

Issue: Lack of funding to support GA's Green Building Program makes it difficult to adequately support and report on the State LEED Building efforts.

Recommendation: Provide funding for GA's efforts to support state LEED projects. This would include an increased level of effort for Building Operator Interviews, Post Occupancy Evaluation, and provide feedback to the design and project management professionals. These efforts are explained in more detail in the body of the report. The original request for 1.5 FTE is still appropriate.

Appendices

1. State LEED Project Case Study Gallery
2. GA LEED Quality Assurance Process Instructions and Forms
3. Affected Agencies Committee Agency Contacts
4. Agency/University Contacts for LEED Projects and Energy/Water Reporting
5. Metering Guide and Metering Plan Template
6. Energy and Water Savings Reporting Spreadsheet-Cost and Savings Data
7. LEED Project Data (Recycled Content, Recycling Construction Waste, Daylight, Low VOC, Regional Materials)
8. LEED Project Cost Data
9. Post-Occupancy Evaluation Pilot Report
10. "Green Building - Jobs for the Future" DVD

Agency/University Sustainable Building Reports

11. UW Sustainable Building Report
12. WSU Sustainable Building Report
13. WWU Sustainable Building Report
14. EWU Sustainable Building Report
15. CWU Sustainable Building Report
16. TESC Sustainable Building Report
17. Commerce Sustainable Building Report
18. DOC Sustainable Building Report
19. DSHS Sustainable Building Report
20. GA Sustainable Building Report
21. DFW Sustainable Building Report
22. DNR Sustainable Building Report
23. DOT Sustainable Building Report
24. Parks Sustainable Building Report
25. DIS Sustainable Building Report
26. Exemption Declarations

Appendices:

1. State LEED Project Case Study Gallery

Skagit Valley College Science and Allied Health Building — LEED Platinum

Skagit Valley College
Where Learning Comes to Life

Project specifics

Gross square footage:	65,230 sf
Construction cost:	$22,536,844
Project occupied:	8/2009
Energy savings:	$27,197/23,461 Therm/yr
Water savings:	121,942 gal/yr
Waste recycled:	749 tons / 98 %
Added LEED cost*:	$477,441.
Incentives:	$254,570
LEED Payback**:	8.2 years
CO_2 savings:	1,167 metric tons per year

Design and construction team

Owner's representative:	Dennis Rohloff, Skagit Valley College
Project manager:	Bob Colasurdo, GA
Architect:	Schreiber, Starling, & Lande
Structural engineer:	AHBL
Mechanical engineer:	Wood Harbinger
Civil engineer:	LBS Engineers
Electrical engineer:	K-Engineers
Landscape architect:	Murase Associates
LEED consultant:	Green Building Systems
General contractor:	Tiger Construction

The new Laura Angst Hall, Science and Allied Health Building, is sited on the Southwest corner of the main campus located in Mount Vernon.

The building comprises a 65,230-square-feet building with distance education classrooms, labs for nursing and other health occupations, as well as classrooms for astronomy, biology, chemistry, environmental conservation and physics.

The facility was built with a host of sustainable features including a rain garden that will also function as a lab. photovoltaic panels that supply 8.5 percent of the building's electricity, lighting that self adjusts to natural light, a system that recovers heat from lab hoods, and plumbing fixtures that use 40 percent less water.

The contractor achieved a 98 percent rate of recycling for construction waste, no new parking was added. The building achieved LEED Platinum certification.

The Distance Education portion of the building, equipped with wi-fi networks and smart classrooms will allow student options for learning opportunities at other community colleges as well as four-year universities.

Phone: (360) 902-7199 Fax: (360) 753-2848
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Sustainable sites

Land improvement: The project removed a contaminated building within the project limits resulting in a credit for brownfield redevelopment and for maximization of open space.

Alternative transportation: Skagit valley College is served by 2 bus lines with 0.25 miles of the site. Bicycle storage, shower/changing facilities and racks have been provided.

Light pollution reduction: The project is located in a campus setting and is compliant with LEED-NC for multiple buildings and On-Campus Building Projects.

Water efficiency

Irrigation: The installed irrigation system reduce potable water consumption by 68.4% from baseline.

Water efficient fixtures: The project utilizes ultra-low flow urinals, dual flush toilets and low flow lavatories, showers and kitchen sinks for a 48% reduction from baseline.

Energy and atmosphere

Natural light: The project achieved a minimum 2% glazing factor or a minimum daylight illuminance of 25 footcandles in 75.8% of all regularly occupied spaces.

Heating and cooling: Energy efficient methods include an improved thermal envelope, high efficiency glazing, reduced lighting power density, occupancy sensors and high efficieincy water source heat pumps.

Lighting: Multi-shared and individual work stations have been provided with occupancy sensors, orverride on-off switches, and multi-level lighting controls,

Material and resources

Occupant recycling: The facility has been provided with appropriately sized dedicated areas for the collection and storage of recycling materials, including cardboard, paper, plastic and glass.

Recycle materials: The project recycled 749 tons (97.1%) of on-site generated waste.

Local materials: 24.9 % of total building materials and/or products have been extracted, harvested, or recovered, as well as manufactured within 500 miles of the project site.

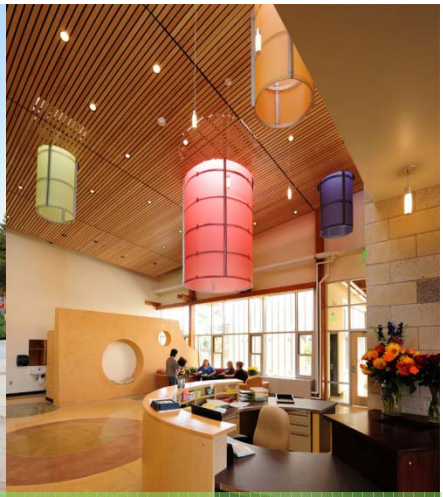
Indoor environmental quality

Low-emitting materials: All indoor paint and coating products comply with the VOC limits of Green Seal and SCAQMD standards. Low emitting marials include adhesives and sealants, paints and coatings, carpet systems, composite woods and Agrifiber.

Innovation in design

Education: The project includes an educational display highlighting the building's sustainable design features as well as an educational outreach program.

Green Cleaning: The college has committed to LEED –NC v2.1 IDc1.1 CIR ruling. for achievement of a Green Housekeeping program.



Tacoma Community College Early Learning Center

LEED Gold

TACOMA COMMUNITY COLLEGE

Project specifics

Gross square footage:	12,962 sf
Construction cost:	$4,873,165
Project occupied:	09/2008
Energy savings:	244 MMBtus/yr; $4,000/yr
Water savings:	237,000 gallons/yr
Waste recycled:	99%
Added LEED cost*:	Approx. $191,000 for construction & fees 3.9% of construction
Incentives:	none
LEED Payback**:	unknown
CO_2 savings:	unknown

Design and construction team

Owner's representative:	Clint Steele, Tacoma Community College
Project manager:	Yelena Semenova, Washington State Department of General Administration, E&A Services
Architect:	McGranahan Architects
Structural engineer:	AHBL Engineers
Mechanical engineer:	BCE Engineers
Civil engineer:	AHBL Engineers
Electrical engineer:	BCE Engineers
Landscape architect:	Cascade Design Collaborative
LEED consultant:	O'Brien & Company
General contractor:	Pease Construction

The new 12,962 square foot Early Learning Center at Tacoma Community College enables student parents to pursue their education by providing a safe, affordable, and nurturing environment for their children. This project includes classrooms for Infants, Toddlers, Woddlers, and Preschoolers (age 3-5) for a total of 108 children; nearly doubling the capacity of the facility that it replaced. In addition to Early Learning programs for children, the new Center provides a classroom for adults in the Early Childhood Education/Paraeducator programs and observation rooms adjacent to every classroom to provide practicum and field observation opportunities. The facility was funded by TCC students, the TCC Foundation and a State matching grant.

The Early Learning Center received LEED Gold Certification. The building has natural ventilation, operable windows, and radiant floor heating. Through the use of CO2 and occupancy sensors, the ventilation systems adapts to the changing needs of building occupants and maximize energy savings. Bonus LEED innovation credits were achieved through a Green Housekeeping policy for environmental cleaning practices, as well as a Green Building Education program that communicates the sustainable features of the facility.

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Sustainable sites

Alternative Transportation: The building is within 1/4 mile of 10 bus routes providing building occupants usable access to an alternate means of transportation.

Heat Island Effect: By using a light colored roof and plants that shade the building, the site creates less heat, reducing its contribution to high temperatures in the city.

Light Pollution Reduction: The building utilizes site and exterior lighting that is efficient and reduces glare. As a result excess light is not reflected into the sky and energy is saved.

Water efficiency

Water Efficient Landscaping: Utilizing drought tolerant plants and mulches to reduce water needs.

Water Use Reduction: By using dual flush toilets, low flow faucets and drought resistant planting this building will use 55% less water.

Energy and atmosphere

Commissioning of Building Systems: Commissioning is a process that ensures that all of the building mechanical systems are working properly. For example, if a fan was installed incorrectly it would affect all the other systems associated with it and ultimately waste energy.

Optimize Energy Performance: High relief louvers and low intake louvers naturally ventilate the building by allowing cool air to enter the building near the floor and heated air to exit the building near the ceiling.

Optimize Energy Performance: In-slab hydronic heating is used throughout the learning areas saving in energy expenses.

Material and resources

Storage and Collection of Recyclables: The Early Learning Center and TCC campus has an organized recycling program for paper, glass, plastics and food waste organics. The ELC is the first building on campus to recycle food waste organics.

Construction Waste Management: 75% of the building's construction waste was either reused or recycled.

Indoor environmental quality

Low-emitting Materials: Using materials that emit few volatile organic compounds (VOC's) reduces health problems

Daylight and Views: 95 percent of the ELC's indoor spaces allow views to the outdoors and natural daylight.

Innovation in design

Education: The Early Learning Center incorporates a Green Building Education program that communicates the sustainable features of the facility through comprehensive signage and informational pamphlets.

Green Cleaning: A LEED innovation credit was achieved through a Green Housekeeping Policy with environmentally preferable cleaning products and practices.

Exemplary Credit for Water Use Reduction: A LEED exemplary credit was awarded by achieving water use reduction by more than 40%. (The project saved 55%.)

Exemplary Credit for Maximizing Open Space: A LEED exemplary credit was earned by achieving Vegetated open space equal to over 40%. The project achieved 46% by setting aside open space as visual buffers, preserving native vegetation, maintaining an open meadow for shallow stormwater detention, and incorporating outdoor play spaces.

*construction and fees.

**Added cost for LEED related consultant fees and construction costs, minus the incentives, divided by the savings from utilities based on the modeling performed for the LEED submittal which is comparing the "as-built" building

South Puget Sound Community College Natural Sciences Building LEED Gold

Project specifics

Gross square footage:	52,000 sf
Construction cost:	$21,901,560
Project occupied:	01/2009
Energy savings:	$ 50,899 and 11 MMBtus per year
Water savings:	$ saved and 45,721 gal/yr
Waste recycled:	418.3Tons / 96.2%
Added LEED cost*:	$ for construction & fees/ % of Constr.
Incentives:	$ received from utilities and other
LEED Payback**:	## years payback
CO_2 savings:	### tons

Design and construction team

Owner's representative:	Ed Roque, Dean of Capital Facilities
Project manager:	Penny Koal, E&A Services
Architect:	The Miller|Hull Partnership
Lab Planning:	Research Facilities Design
Structural engineer:	AHBL
Civil engineer:	AHBL
Mechanical engineer:	PAE Consulting Engineers
Electrical engineer:	Sparling
Landscape architect:	Murase Associates, Inc.
LEED consultant:	O'Brien & Company, Inc.
General Contractor:	M. A. Mortenson Company

The new three story Natural Sciences Building forms the western edge of the campus and compliments an existing science building to create a Natural Sciences Complex. The building provides specialized instruction for geology, botany, physics, anatomy, chemistry, and biology. An programming goal identified early in the design process centered on how to combine laboratory program elements requiring controlled mechanical ventilation with offices and classroom spaces that were to be naturally ventilated and passively cooled. This core idea significantly influenced the layout of the building and increased our goals for energy savings.

Sustainable site features extend the learning environment to the outside of the building. A central storm water infiltration pond is used for water quality testing, and native plantings within the pond and around the building are used for plant identification by the botany program

Separating non-lab spaces in a naturally ventilated wing of the building was a fundamental strategy that led to above average energy savings. The resulting density of systems in the laboratory wing led to greater efficiency in systems piping and distribution.

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General Administration
STATE OF WASHINGTON

Sustainable sites

Land improvement: 100% on-site stormwater infiltration, porous concrete, native plantings, and no irrigation

Alternative transportation: Describe how the project provides for alternative means of transportation.

Water efficiency

Water efficient fixtures: 50% water savings.

Site Water Use: Native plantings, including transitional native grasses to restore nutrients in the soil, allowed for no irrigation system to be installed.

Energy and atmosphere

Natural light: Continuous high and low ribbon windows in the laboratories provide excellent natural lighting for energy savings and improved color rendition. Refracting glass interlayer helps to bounce daylight deeper into the building.

Heating and cooling: A variable air volume mechanical system maintains safe ventilation standards in the laboratory wing, utilizing occupancy sensors to reduce air exchanges during hours of non-use, and heat recovery in the lab exhaust system to reduce energy consumption.

Natural Ventilation: Offices and Classrooms, including a 100 seat lecture hall, utilize natural ventilation, in-slab radiant heating and thermal mass to greatly reduce energy use.

Measurement and Verification: Mechanical systems are monitored to provide opportunities for tuning and optimization of the systems over the life of the building.

Material and resources

Construction Waste: Diverted 95% of construction waste material from landfill.

Recycled materials: Recycled content exceeded 10% of building materials, including; CMU, steel, wood doors, gypsum products, toilet partitions, particle board, aluminum panels, rigid insulation, ceiling tiles, carpet tile, and ceramic tile.

Local materials: Exceeded 20% of materials manufactured or fabricated within 500 miles of the project site.

Indoor environmental quality

Low-emitting materials: Sealants and adhesives, paint, carpet, and composite wood products all meet required standards for low-emitting materials, reducing off-gassing of these finish materials.

Increase ventilation effectiveness: Laboratories are ventilated with 100% outside air. Smaller individual offices are naturally ventilated with operable windows. Larger 50 person classrooms utilize stack ventilation and operable windows to draw air through the space. A 100-seat lecture hall utilizes stack ventilation and an automatically controlled air intake damper to draw air through the space. In both classrooms, a mechanical assist system supplements the natural ventilation when necessary.

Controllability of Systems: Offices are naturally ventilated with operable windows and controllability of a solar powered exhaust fan in each office. Classrooms and laboratory ventilation is controlled by individual thermostats.

Innovation

Air Quality testing: A scale model of the proposed building was subjected to wind tunnel testing to confirm that exhaust air effluent would not conflict with air supply and natural ventilation openings in this building and adjacent buildings.

Green Housekeeping: A manual including green cleaning products and procedures was prepared and adopted by the College.

Exemplary Performance: Water savings in excess of 48%, and diversion of over 96% of construction waste from landfill qualified for exemplary performance.

Centralia College New Science Center

LEED Gold

CENTRALIA COLLEGE

Project specifics

Gross square footage:	69,984 SF
Construction cost:	$23,980,983
Project occupied:	April 2009
Energy savings:	$ 33,171.00 and 5,486 KBtu/Yr
Water savings:	$ 197.24 39,761.67 gallons
Waste recycled:	311.74 Tons / 96.493%
Added LEED cost*:	$ 291,296.00, 1.3% of Constr.
Incentives:	none
LEED Payback**:	8.7 Years
CO_2 savings:	194 Tons

Design and construction team

Owner's representative:	Steve Ward, Centralia College
Project manager:	Jim Copland, General Administration
Architect:	Leavengood Architects
Structural engineer:	Arun Bhagat, AKB Structural Engineers
Mechanical engineer:	Wood Harbinger
Civil engineer:	Saez Consulting Engineers, Inc.
Electrical engineer:	Wood Harbinger
Landscape architect:	Karen Keist Landscape Architects
LEED consultant:	Green Building Services
General contractor:	Schwiesow Construction

The New Science Center at Centralia College is designed as a platform for discovery, organized to activate a vibrant and friendly pedestrian environment. The new three story concrete and steel structure is sympathetic to the original order of the street, housing the science departments, the nursing facilities, general classrooms and administrative offices. The project's visual and physical connections between the interior and exterior, creates an environment that promotes strong campus and community links, while offering innovative new learning opportunities.

Designed prior to the Washington State Sustainable requirements, the project achieved a gold status, without any revisions to the design. This can be attributed to the straightforward approach to achieve the sustainable goals for the campus. Working within a tight budget and a building type that typically has a high-energy demand, the sustainable design is characterized by efficiency and a passive common sense approach to design, in lieu of expansive active systems.

The expression of the passive design is captured in the new structures sun control systems. Overhangs and louvers were designed and tested with the Lighting Lab in Seattle, to reduce energy loads while activating natural lighting and social connections. Rain gardens defined a new passive approach to Storm Water Control for the campus, eliminating the expense of underground water detention. In addition, the College sought sustainable directions in materiality that was not only durable, but also long lasting.

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General Administration
STATE OF WASHINGTON

Sustainable sites

Land improvement:
The New Science Center not only energize an existing pedestrian environment, it invites students to explore the world of science. With generous amounts of break-out spaces, laboratories and classrooms, the New Science Center communicates its environmental goals by contributing to a vibrant and healthy community. The new structure fosters public participation, with indoor/outdoor spaces that flow together spatially and visually. The project is part of the existing residential neighborhood, lending 43,000 SF of open space to both the campus and the community,

The New Structures replaces the existing science building and two classroom structures that have all reached the end of their building life cycle. Asbestos was identified in the existing science building, the site was classified as a brown-field and cleaned up prior to construction.

In the post development condition the new facility will add 0.16 acres of impervious surface. A passive approach to storm water management was set as a priority. Three infiltration rain gardens were implemented with a total bottom surface area of 1,453 SF. Sized for a 3-inches per hour infiltration rate, the rain gardens offset the storm water runoff and erosion from the site. Additionally a pervious concrete was provided for the ADA Parking and Service/Drop off area.

Alternative transportation:
The primary means of transportation to the campus has historically been the automobile. To inspire alternative means of transportation, the site is located adjacent to existing city bus lines. Bicycle facilities are located adjacent to the structure and electric power has been provided for alternative transportation vehicles in selected parking spaces around the building. No additional parking spaces were added to the campus parking plan as a result of this project, other than two ADA parking spaces off Locust Street. As a result this leaves an open area on the east side of the building for outdoor activities, graduation ceremonies terraces and pathways that connect the building to the campus.

Light pollution reduction:
All new light fixtures for the site are shielded to prevent light pollution of the night sky, the natural environment and crossing the property boundary. Existing Campus Street Lights have been retrofitted to minimize the night sky pollution while providing a safe and secure campus.

Water efficiency

Potable water has been reduced by 42.7%. The approach for the water harvesting, detention and conservation is defined as passive. With the exception of irrigated turf, Planting material chosen selected is native and drought resistant, once established irrigation will be not be needed.= This helps offset the open lawn areas required as a programmatic requirement for graduation ceremonies.

Dual flush toilets, water efficient faucets, low flow urinals, lavatories and kitchen sinks, all contribute to the to reduce water use for the Structure.

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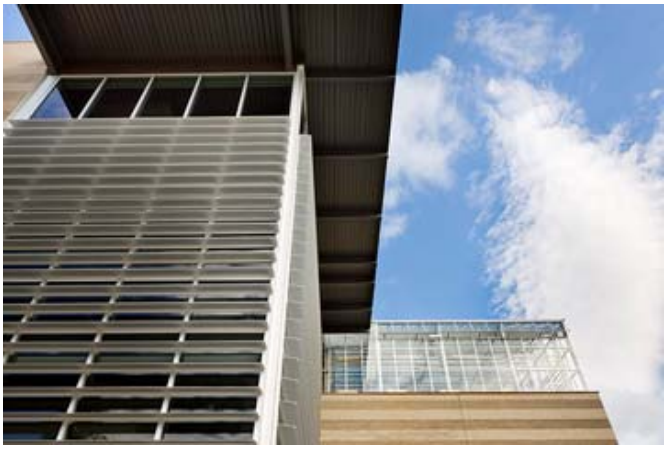
Energy and atmosphere

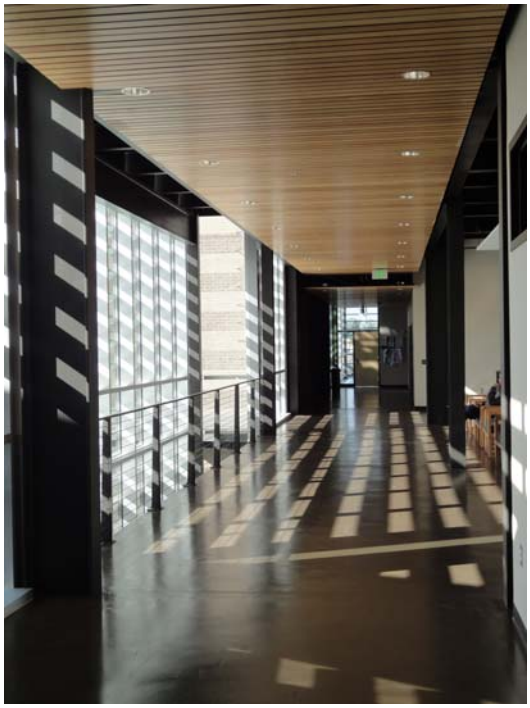
A number of energy conservation measures are designed into the New Science Center to reduce the overall energy savings for the site. Highly insulated building envelope including walls, and windows, high efficiency lighting and a highly efficient mechanical system all contribute to the calculated. Large roof overhangs, and sunshades located in large glazed areas minimize heat gain. The energy performance rating has been calculated at 31.2% according to the ASHRAE methodology.



High efficient condensing gas fired boilers and hot water heaters are 13% more efficient than conventional boilers. Air conditioning systems will be provided to all HVAC systems from a central air-cooled chiller located on the roof.

Variable Air Volume controls at the Science fume hoods are balanced with the general exhaust air valves to provide a negative offset in the room to control fumes while reducing energy loads on the mechanical system.

Natural Light reaches 75% of the building floor area, while a direct line of sight to the exterior reaches 96 % of the structure. Large overhangs and solar shades reduce glare and minimizes heat gain, especially in the south and west facing elevations. Natural light is utilized to enhance the building and reduce energy consumption.

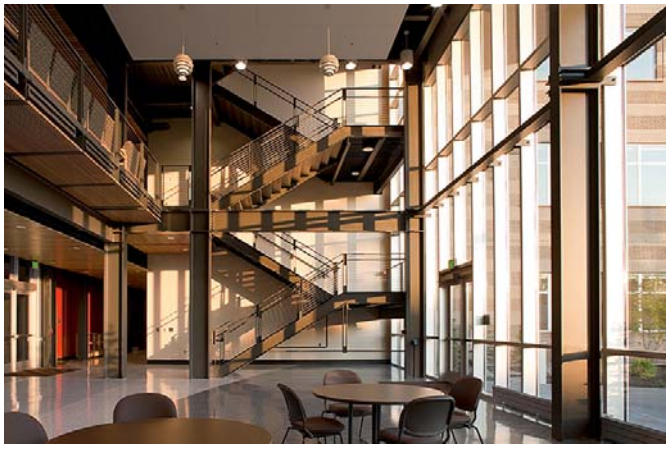


Lighting Daylight controls reduce total quantity of artificial lighting, dimming electrical lights when outside light is adequate. Classrooms are zoned to turn luminaries on only when electric lighting is needed along, thus reducing the electrical load on the project. When electric light is needed the luminaries that are zoned use power while still providing quality light to the space.

Material and resources

Occupant recycling:
A Recycling Center is established for the entire building. Concrete demolished from the existing structures on the site was removed and recycled.

Recycle materials:
Exposed Steel and Concrete constitute a visual expression of recycled and local materials utilized in the structure. Recycled Materials with over 40% content are used and expressed in the design and itemized as follows:
Steel, Cast in Place Concrete, Rebar, Precast Concrete, Suspended Ceiling Panels, Mortise Locks, Insulation, Dens Glass Gold Sheathing, Casework,



Local materials: Local Material used on the project are listed as follows:
Rebar, Steel, Cast in Place Concrete, Casework, Steel Studs, Dens Glass Sheathing, Specialty doors, Pea Gravel.

Indoor environmental quality

Low-emitting materials:
Indoor air is protected by the choices of carefully researched finishes and other potential source of fumes. All sealants, paints and adhesives were selected for low volatile organic compounds (VOC) content. Floor finishes all Low VOC as follows; carpet, exposed concrete, concrete sealers, linoleum, and terrazzo. Filtration in the mechanical system exceeds standard industry practice. Operable windows in the administrative areas allow users to control fresh air entering their spaces.

Innovation in design

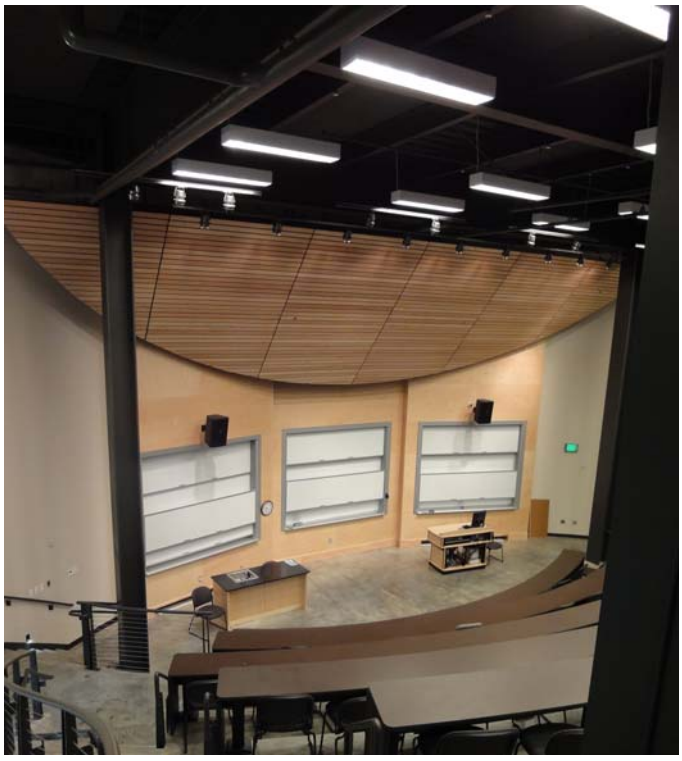
Education:
Signage is currently being developed to teach the different aspects of sustainable design to the users. Signage is being organized to show how the structure achieves sustainable design in each of the following categories:

Construction Waste:
The construction team selected division methods to divert over 95% of the construction waste from landfill.

Recycled Material:
Over 40% of the construction material was recycled

Water Efficiency:
This project used a combination of high efficiency fixtures including low flow water closets, low flow urinals and lavatories to achieve a 42.7% water use reduction.

Material Recourses:
The project team selected certified wood materials that allowed them to exceed a 95% threshold of FSC certified wood products.



WSD Vocational Education and Support Building

LEED Gold

Project specifics

Gross square footage:	23,444 sf
Construction cost:	$8,432,819
Project occupied:	09/2009
Energy savings:	$ 10,636/year / 875 MMBtus/year
Water savings:	26,693 gallons/year
Added LEED cost:	$141,500.
CO_2 savings:	50 tons/year

Design and construction team

Owner's representative:	Rick Hauan, WSD
Project manager:	Dwayne Harkness, GA
Architect:	SRG Partnership Inc
Structural engineer:	Kramer Gehlen & Associates, Inc
Mechanical engineer:	PAE Consulting Engineers
Civil engineer:	Hopper, Dennis, Jellison, PLLC
Electrical engineer:	PAE Consulting Engineers
Landscape architect:	J. D. Walsh Associates, P.S.
General contractor:	Triplett Wellman Contractor

The Vocational Education and Support Building is the first of three phases in the larger campus master plan. The master plan seeks to create a cultural core generated between the campus' library, auditorium, gymnasium and multipurpose hall. These programs act as the hearts of the communities on campus and will allow the students to see that they are all part of a significant deaf community.

The building harbors the campus' multi-purpose space with adjoining kitchen, but is otherwise intended to function as a place for vocational education. The spaces dedicated to this purpose include a maintenance shop, automotive shop and a garden shop, supported by ancillary spaces devoted to these functions.

Control and even distribution of daylight played an important role in the multipurpose space in the building, which incorporates physically integrated assemblies of prismatic skylights, operable louvers and electric lights. Windows within this space that face out to the future plaza are shaded on their exterior from direct light and use mechanically controlled interior roller blinds to darken the interior space as necessary.

The buildings multipurpose space is located at the edge of what will someday become a central campus plaza because of this project's role in the overall campus master plan. The spaces within the building that facilitate vocational education are located on the other side of the building from the multipurpose space in order to allow it to have a strong public presence.

Sustainable sites

Land improvement: The project site is a previously developed site – a brownfield that required asbestos abatement during excavation. The project's storm water runoff from roofs is directed to drywells on site, while the vegetated open spaces become rain gardens for runoff from paved surfaces. These strategies take advantage of the maximized open space and mean that no runoff leaves the site.

Alternative transportation: Building program includes 2 staff showers and bike racks to be added to campus. The project is located near several bus lines. Designated parking for low emitting and fuel efficient parking will be created for the school's fleet of hybrid cars.

Water efficiency

Irrigation: Several approaches were used to reduce potable water consumption for irrigation by 68%. The landscape design maximized the use of drought tolerant plant materials while minimizing high water use turf grasses. The irrigation system was designed with highly efficient irrigation heads and is controlled by a sophisticated system. The new irrigation system will also connect to the existing irrigation system in order to take advantage of these new features.

Water efficient fixtures: The project has reduced potable water use by 32% from a calculated baseline design through the installation of dual flush water closets, low-flow urinals, and low-flow showers and sinks.

Energy and atmosphere

Energy Performance: Well-insulated walls, roof and glazing along with a reduced lighting power density, daylighting, premium efficiency motors, variable speed drives, efficient ground source heat pumps, and an efficient domestic hot water heater optimize this project's energy efficiency.

Lighting: An automated lighting control system with integrated time clock and exterior photocell providing interior sweep control and exterior photocell/time clock control were used. Occupancy sensors, dimmable daylighting controls, and individual switches were provided in private offices, and conference room. The multi-purpose space was provided with two lighting control stations for full dimming control of three lighting zones, and raise/lower controls for motorized shades and skylight louvers.

Material and resources

Occupant recycling: In addition to conforming to recycling requirements set forth in LEED Materials & Resources Prerequisite Storage and Collection of Recyclables, campus operations have established a Food Waste Composting program.

Recycled materials: Recycled content counted for 25% of the total material costs and included: concrete, structural steel, metal deck, insulation, metal wall panels, steel doors, gypsum wallboard, acoustic ceilings, rubber floor, carpet, and linoleum.

Wood: FSC certified woods were used for wood doors, casework, and fire treated plywood. These certified wood products accounted for 79% of new wood-based costs.

Local materials: 26% of total material cost came from local materials.

Indoor environmental quality

Chemical and Pollutant Source Control: Removable walk-off mats were installed at all regularly used entry ways with a weekly maintenance schedule. Rooms used for chemical storage are pressurized and exhausted separately from main building return air. MERV-13 filters were installed in the air handlers.

Natural Light and Views: 78% of all regularly occupied spaces have access to daylight and views. Control and even distribution of daylight played an important role in the multipurpose space in the building, which incorporates physically integrated assemblies of prismatic skylights, operable louvers and electric lights.

Innovation in design

Education: The project facilitates green building education via related signage, a student curriculum describing green building strategies and concepts, and project specific information posted to the school's web site.

Green Cleaning: WSD has outlined green cleaning practices and will be using cleaners that meet Green Seal's standards for industrial cleaners.

Recycling: The campus operations have established a Food Waste Composting program. This building's program is inclusive of a cafeteria with full size commercial kitchen that produces breakfast lunch and dinner for students 5 days/week producing 320 gallons of weekly food waste. The school has established a program to send this material to be composted for reuse.

Construction Waste Management: More than 96% of construction waste was diverted from landfills.

Bellevue College Science and Technology Building

LEED Gold

BELLEVUE COLLEGE
Become Exceptional

Project specifics

Gross square footage:	62,882 sf
Construction cost:	$27,633,886
Project occupied:	12/2008
Energy savings:	$20,600 /14.1%
Water savings:	49.8%
Waste recycled:	98 %
Added LEED cost*:	$129,000.
Incentives:	$62,800
LEED Payback**:	6.3 years
CO_2 savings:	not available

Design and construction team

Owner's representative:	Dave Maxwell, Bellevue College
Project manager:	Bob Colasurdo, GA
Architect:	Miller Hull Partnership
Structural engineer:	AHBL
Mechanical engineer:	Hargis Inc.
Civil engineer:	Coughlin Porter Lundeen, Inc.
Electrical engineer:	Sparling
Landscape architect:	Berger Associates
LEED consultant:	O'brien & Associates
General contractor:	M.A. Mortenson Company

Completed in March 2009 and officially designated the "S Building," the three-story, 62,882 square-foot facility houses five high-tech classrooms for life sciences and chemistry classes; 16 advanced laboratories, including DNA-sequencer and scanning-electron-microscope labs; and a Science Study Center.

In awarding the Gold LEED rating, the Council cited the S Building's numerous "green" aspects:

1 The facility saves heating energy by employing loss-reducing designs for roof, wall and window construction, and for heating with high-efficiency, water-source heat pumps.

2 It saves lighting energy by bringing natural light into 91 percent of its interior space, and by using room-occupancy sensors to turn lights off when not needed.

3 It saves water through use of low-flow fixtures in laboratories, showers and restrooms, and promotes water quality through a landscaping design that enables water to drain naturally to the Kelsey Creek watershed.

4 It conserves natural resources by using electricity from renewable sources for more than one-third of its power needs, using recycled materials in more than one-fifth of its construction and achieving a 98 percent reduction, through recycling and more precise planning, in the amount of construction waste sent to landfills.

5 It provides for a healthier interior environment by using more outdoor air for interior ventilation, a maximum-volume air circulation system, and low-emission paint, carpeting and sealants.

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Email: ssimpso@ga.wa.gov

General Administration
STATE OF WASHINGTON

Sustainable sites

Land improvement: 57% of the previously developed site not included in the building footprint has been restored with native plantings.

Alternative transportation: Bellevue College is served by 4 bus lines with 0.25 miles of the site. Bicycle storage, shower/changing facilities and racks have been provided.

Light pollution reduction: The project is located in a campus setting and is compliant with LEED-NC for multiple buildings and On-Campus Building Projects.

Water efficiency

Irrigation: The installed irrigation system reduce potable water consumption by 50.8% from baseline.

Water efficient fixtures: The project utilizes ultra-low flow urinals, dual flush toilets and low flow lavatories, showers and kitchen sinks for a 50.8% reduction from baseline.

Energy and atmosphere

Natural light: Direct Line of sight views for 91% of all regularly occupied areas has been provided.

Heating and cooling: Energy efficient methods include an improved thermal envelope, high efficiency glazing, reduced lighting power density, occupancy sensors and high efficieincy water source heat pumps.

Lighting: Multi-shared and individual work stations have been provided with occupancy sensors, orverride on-off switches, and multi-level lighting controls,

Material and resources

Occupant recycling: The facility has been provided with appropriately sized dedicated areas for the collection and storage of recycling materials, including cardboard, paper, plastic and glass.

Recycle materials: Parking lot asphalt demolished for the construction of the building was 100% recycled.

Local materials: 11.6 % of total building materials and/or products have been extracted, harvested, or recovered, as well as manufactured within 500 miles of the project site.

Indoor environmental quality

Low-emitting materials: All indoor paint and coating products comply with the VOC limits of Green Seal and SCAQMD standards. Low emitting marials include adhesives and sealants, paints and coatings, carpet systems, composite woods and Agrifiber.

Innovation in design

Education: The project includes an educational display highlighting the building's sustainable design features as well as an educational outreach program.

Green Cleaning: The college has commited to LEED –NC v2.1 IDc1.1 CIR ruling. for achievement of a Green Housekeeping program.

sn-w'ey'-mn Building
Spokane Falls Community College
Spokane, Washington

Replacing three 1967 buildings on the Spokane Falls Community College campus, this new 70,000-square-foot, three-story structure features two wings – each housing a separate department – connected by a light-filled three-story atrium lobby space. With equality between the Business and Social Science departments being a prime driver for the classroom spaces, the west (campus) façade is a rhythm of eight learning lanterns. Each lantern is composed of two stacked classrooms with a floor-to-ceiling thermal buffer wall maximizing the daylight entering the classrooms and creating a visual connection to the campus while also providing an insulating air space to minimize the heat gain and loss through the large expanse of glazing. The vertical concrete organizational members throughout the exterior are direct connections to the existing campus language, maintaining the continuity of the established rhythm.

Fulfilling the college's re-focused desire to create student-gathering spaces, multiple study areas are scattered throughout the floors and around the exterior. To promote the inclusion of features that minimize environmental impact and maximize energy efficiency, the facility has earned LEED Gold certification, making it the first community college building in Washington state to attain this status as well as the first LEED building constructed on a Community Colleges of Spokane (CCS) campus.

Initially called the Business and Social Science Building, the facility was formally named the sn-w'ey'-mn Building to honor the Salish-speaking people who historically lived in this region in an environmentally sustainable manner. sn-w'ey'-mn is a Native American word in the Salish language that means a trading place for knowledge, materials, trades and commercial goods. The major artwork of the building is focused on the theme of commerce, tying together the two departments that will be housed in the building: Social Sciences and Business. Commerce was a mainstay of the regional tribes who traded extensively among themselves and with the coastal tribes. This name recognizes the importance of commerce as it existed for thousands of years among regional tribes.

COMMUNITY COLLEGES OF SPOKANE

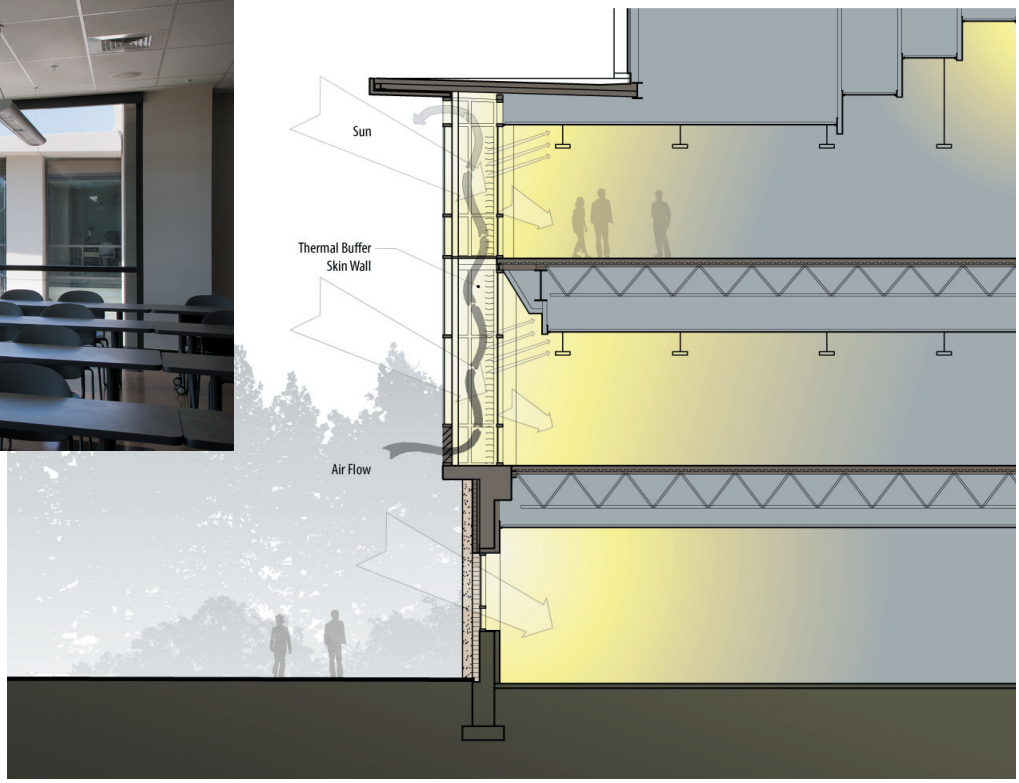
NAC | ARCHITECTURE

Design & Construction Team

Architect:	NAC|Architecture
Civil Engineer:	Taylor Engineering
Structural Engineer:	Structural Design Northwest
Mechanical Engineer:	L&S Engineering Inc.
Electrical Engineer:	NAC|Engineering
Landscape Architect:	Hellstrom and Associates
General Contractor:	Kearsley Construction Inc.

A sample of sustainable attributes includes:

- 40% reduction in water usage
- 90% of regularly occupied spaces have direct line of sight to exterior window
- 75% of regularly occupied spaces have minimum daylight factor of 2%
- 95% of construction waste diverted from landfills
- Red light/green light system in office corridors indicates whether or not to open windows without interfering with the building mechanical system
- MDF, bamboo, linoleum and recycled carpet are primary interior materials
- Building is operating for 2 years on wind-generated power
- Aggregate in terrazzo floors quarried from Chewelah, radiant heat below in lobby
- Concrete manufactured in Spokane Valley
- Masonry veneer manufactured in Mica, Washington



COMMUNITY COLLEGES OF SPOKANE

NAC | ARCHITECTURE

SUSTAINABLE DESIGN

The US Green Building Council (USGBC) prescribes an approach to evaluating the performance of building design and compares them against the industry accepted energy efficient standards. The rating system has provided designers the opportunity to objectively demonstrate the performance of their sustainable design efforts. The Coyote Ridge Corrections Center is one of the first corrections centers of its size to apply these sustainable development standards in design and the first to achieve a LEED® Gold certification. By attaining this standard, this facility has achieved the following benchmarks in efficiency:

- **32% reduction in energy use**
  - 13% reduction in electricity, primarily in exterior lighting and Energy Star fixtures inside the building.
  - 42% reduction in natural gas use.
  - 50,000 MBtu per year reduced energy consumption will save up to $370,000 each year on energy bills.
  - Renewable energy production on-site.
    - » A Photovoltaic solar array capable of producing 105,525 kWh per year has been placed on selected roof areas.
- **32% reduction in water use**
  - Landscaping without irrigation and using ultra efficient plumbing fixtures saves over 5.5 million gallons of water each year.
- **Support for car pool/van pool programs that are expected to save thousands of gallons of gas each year with many of the employees expected to commute from the Tri-City area.**
- **96% of construction waste recycled or reused**
  - A Construction Waste Management program reduced the amount of the construction materials being sent to land-fills. The materials were sent to local recyclers to be recycled into new products. This not only reduces the need for land-fill but also reduces the need for raw materials, as many of these materials are recycled into new building materials.
- **46% of the materials in this facility were constructed from recycled material.**
- **45% of the building materials were fabricated locally.**
- **The use of light reflective roofing and light colored surface materials also reduces the solar heat gain on and around the buildings reducing heating loads and making the surrounding outdoor environment more comfortable for the inmates who use the grounds around the building for a number of activities.**

CH2MHILL

CONTINUED FROM INSIDE

In addition to these savings, a Photovoltaic array has been placed on the roof to generate power further reducing this facility's energy demand on the grid. This renewable energy source can be expanded and could prove effective enough at generating power.

MATERIAL AND RESOURCES

More than $28 million of raw materials went into construction of this facility; 46 percent came from recycled sources. Over $10 million worth of materials came from sources within 500 miles of this facility.

Nearly 27,500 tons of material was removed from this site during construction. Of that, only 160 tons were sent to land-fills. The rest were sent to recyclers to become the next generation of recycled building materials or went directly to other construction efforts, like the gravel base under roadwork.

INDOOR AIR QUALITY

The inmates spend much of their time indoors and with the high population density of this facility, indoor environmental quality is very important. By selecting building materials that produce fewer volatile organic compounds and are formaldehyde free, the design ensured that the materials used in construction do not compromise the indoor environment. By following strict procedures for cleansing the buildings with fresh air prior to occupancy, the owner is assured that the indoor air quality of the facility and the mechanical equipment used to ventilate the facility will be ready to support a healthy environment for the inmates. Smoke-free policies and green housekeeping strategies, also assure that steps have been taken to keep the environment healthy.

COMMUNITY AWARENESS

Limited guided tours of this facility will be made available to the public upon request.

ES03071020492SPK 03/07/2010 mrj

FOR ADDITIONAL INFORMATION ABOUT THIS FACILITY, CONTACT THE LEED® ACCREDITED PROFESSIONAL: Edward A. Pieterick, AIA, LEED® Architect / Design Manager
Ed.Pieterick@ch2m.com

Coyote Ridge Corrections Center

Connell, Washington

New Construction Campus Design

LEED® GOLD CERTIFIED

Department of Corrections WASHINGTON STATE

HUNT / LYDIG Joint Venture

INTEGRUS ARCHITECTURE

MW Consulting Engineers

What is LEED?

The **Leadership in Energy and Environmental Design** (LEED®) Green Building rating system for New Construction and Major Renovations (often referred to as LEED NC) is a performance standard for certifying the design and construction phases of commercial/ institutional buildings and high-rise residential buildings. The intent of LEED NC is to assist in the creation of high-performance, healthy, durable, affordable and environmentally sound buildings.

Welcome!

We invite you to use this field guide during your tour of this facility to introduce you to the features of this Corrections Center's design, which makes this one of the best examples of high performance and sustainable development for a correction center in the United States.

HISTORY

In January 2006, the Washington Department of Corrections (DOC) issued a request for proposals for the design and construction of the Coyote Ridge Corrections Center (CRCC) Expansion. The project is located on 145 acres near Connell, Washington, and has been built immediately adjacent to the existing facility. The existing 40-acre minimum security facility is between this site and the developed city limits of Connell. The existing minimum security facility has a capacity of 600. The new medium facility is capable of handling 2,048 inmates and employs over 200 staff.

The Washington Department of Corrections initiated a "Sustainability Plan" in September, 2002, describing the DOC's commitment to sustainable development to protect and manage the state's resources. The Sustainability Plan was developed in response to Executive Order 02-03. EO02-03 requires all state agencies to have and maintain such a plan. Included in the second plan update of October 2006, the DOC established a sustainability goal to design and construct new buildings to the USGBC LEED® Silver or Gold standards.

NEW FACILITY STATISTICS

- **Medium Security Facility**
- **145-acre site**
- **Housing 2,048 inmates**
- **Approximately 578,000 square feet of floor area**
- **21 new buildings**

» **Building A: Segregated Housing**

» **Buildings B – E: Medium Security Housing**

» **Buildings F – I: Hybrid Housing (Medium Security)**

» **Building J: Recreation –** this building serves as a place for inmates to exercise. The facility includes a gymnasium, hobby rooms, a music room, and other recreation areas.

» **Building L: Food Service and Medical/Mental Health –** this building is where inmates eat their meals. The dining facility, food preparation kitchen, coolers, and other culinary functions associated with this purpose are located in this facility. The medical side of the facility consists of clinic-exam rooms and related support spaces.

Central Security stations also monitor environmental conditions for inmates.

» **Building M: Inmate Programs –** this building includes a library, law library, classrooms, computer rooms, a counseling center and similar rooms for other developmental programs.

Daylight is brought into the buildings to make the confinement spaces as healthy as possible.

» **Building N: Intake/ Discharge and Visiting –** this building is where new inmates are registered and departing inmates are discharged. Additionally, visitation occurs in this building. There are administrative offices and common spaces for visitation as well as waiting rooms and locker rooms to process the users in and out of the facility.

» **Building P: Correctional Industries –** this building serves as a facility for the inmates to work. The facility includes a laundry operation and a food factory.

» **Building Q: Maintenance Technology and Clean Room –** this building provides building maintenance and vocational training opportunities with a carpentry shop, an electrical shop, and a welding shop. The building also provides a clean room to process inmates as they transition from the shops back inside of the facility.

» **Building R: Vehicle Sally Port –** is a secure fenced enclosure where vehicles are processed for entering and leaving the secured perimeter.

» **Building S: Outside Administration –** is the main facility staff office building, master control, visitor entry, and secure intake area.

» **Building T: Information Technology –** this facility has office space and the campus computer systems.

» **Building U: Switchgear and Water Treatment –** this two-room facility has the campus electrical switchgear in one side and the campus water softening system in the other side.

» **Building V: Warehouse –** is a storage warehouse for campus needs for food storage and freezers for cold food storage.

CH2MHILL

SUSTAINABLE SITE

Light Reflecting Roofing over 100% of Roof Area.

Light reflective roofing covering 100% of the roofing has significantly improved the micro-climate around the facility. Light colored materials absorb less heat. On the roof this means that less heat is transmitted through the structure, lowering the heat load on the equipment. In the yard, where visibility is a must, using materials on the ground that absorb less heat reduces the temperature in the yard, making it more comfortable for inmates confined to this facility.

To manage the stormwater potential of this 145-acre site, a stormwater collection and detention system was a high priority. The stormwater system uses underground piping and drywells to collect and hold the water to ensure that flow rates of the stormwater leaving the site do not exceed predevelopment conditions.

WATER EFFICIENCY

High Efficiency Boilers Save Energy and Building Area.

The gravel landscaping on this site was developed to be consistent with security needs of this facility, and to be a durable, low-cost solution to landscape needs. Though not exactly lush, it does reduce water consumption and herbicide and pesticide use. The area of landscape outside the inmate yard alone would use millions of gallons of water a year if it supported lawn or dense vegetation. The domestic water system inside the buildings has been designed using ultra low-flow fixtures like 1.5-gal/min showers, 0.5-gal/ flush urinals, and 1.1-gal/ flush toilets to save an estimated 5.5 million gal. of water per year.

ENERGY EFFICIENCY

Photovoltaic panels generate power on-site.

Attention to detail is responsible for saving over 50,000 MBtus of energy each year. Energy efficient water heaters, boilers, and air handling units coupled with energy efficient building envelopes and sophisticated temperature and control systems are expected to save Coyote Ridge over $370,000 a year in energy costs.

TEXT CONTINUED ON BACK PANEL

Clark College at the Columbia Tech Center

Example of the Sustainable and Green Building Strategies incorporated in the Design, Construction, and on-going Operations of the facility:

Sustainable Sites:

Some of the strategies used to promote healthy ecosystems include and are not limited to:

- Capture, treatment and release of all stormwater on-site
- Use of rain gardens and bioswales for storm water treatment, *(and a celebration of our region's rain water by daylighting roof drains through artificial ponds for people to see the water being diverted from storm sewers into the rain garden, where it infiltrates and recharges the aquifer.,)*
- Reduced impervious surfacing
- Bicycle parking and Mass Transit service
- Light pollution avoidance

Rain Garden Source

Water Efficiency:

The project was designed with a projected total annual water savings of 948,184 gallons:

- Landscape Irrigation Efficiency: Over 70% irrigation water use reduction by landscaping with native and drought tolerant plant species, reducing lawn area, a high efficiency irrigation system, rain sensors, etc.(a projected savings of 810,000 gallons per year).
- Building Water Use Efficiency: 49.9% building potable water use reduction by installing low-flow fixtures, dual flush toilets, and pint flush urinals (an annual projected savings of 138,184 gallons inside the building).

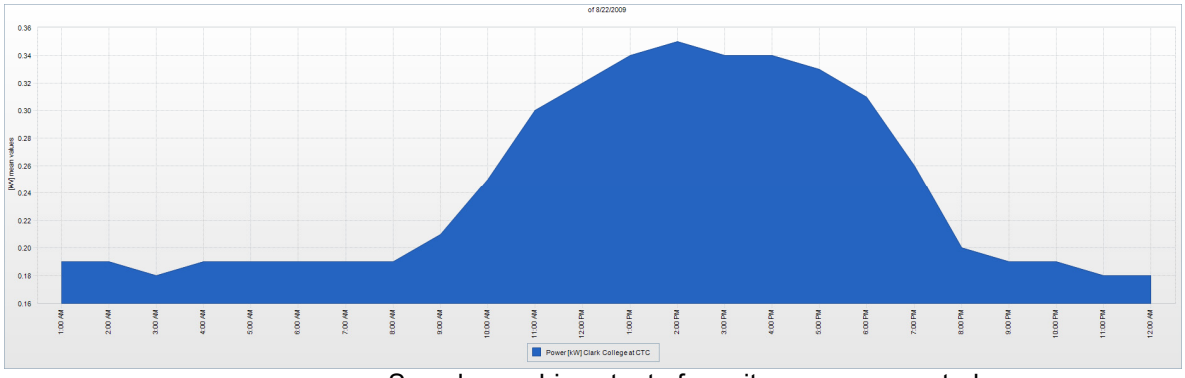
Energy and Atmosphere:

The Facility was designed with energy conservation in mind, and is targeted to perform nearly 29% more efficiently than standard buildings. The design even includes an innovative multi-story trombe wall that pre-heats the building's intake air with passive solar energy. Annual energy savings are estimated at nearly $20,000 per year (note also that bids opened nearly $500,000 below budget).

Trombe Wall

PV and Micro Wind turbines

Renewable Energy: Roof-top photovoltaic arrays (one fixed and one tracking for a total of 2.25kW) and two micro-wind turbines (2 kW) will provide real-life examples of renewable energy systems for students. Students will be able to monitor the energy used by the building and produced on site, while also gaining an understanding of these alternative power sources.



Sample graphic output of on-site power generated

Materials and Resources

Recycling:
In addition to providing recycling for building occupants, more than 95% of construction waste generated on the project was diligently recycled (323 tons) and diverted from landfills through an aggressive construction recycling and salvaging program.

Examples of Responsible Materials used on the project include:

- **32.3% Recycled** products and building materials
- **31.4% Regionally** harvested and manufactured building materials
- Certified wood from sustainable forests (FSC certified)
- Urea-formaldehyde free composite wood products and insulation
- Polished concrete floors reduce materials and maintenance needs, in addition to other low maintenance and durable materials

Indoor Environmental Quality

- **Daylighting:** Over 75% of occupied spaces have been designed with natural lighting, which has been shown to improve student performance, productivity and overall comfort of occupants.
- **Views:** Over 90% of occupied spaces will have access to exterior views.
- **Glazing and Sunshade Devices:** They block unwanted sun in summer, while capitalizing on passive daylighting and heating with deep penetration of daylight in the winter.

- **Indoor Air Quality** Non-toxic Building Materials were used, including low-VOC emitting paints, sealants, adhesives, carpets and finishes. The contractor implemented strict Indoor Air Quality management techniques during construction, and flushed out the building with fresh outside air after construction as an added precaution.
- **Mechanical system and filtration**: designed for high standards of occupant health and comfort. The general contractor adhered to a strict indoor Air Quality management plan during construction, and a complete building flush out was performed after construction to exhaust any remaining irritants. The College uses Green and healthy cleaning practices and cleaning agents to maintain indoor air quality and protect health.

Innovation in Design

Exemplary performance:
Water efficiency features of the design significantly conserve water above even the LEED Water efficiency credit thresholds.

Other Innovation:
Green Cleaning and Housekeeping practices adhere to very strict guidelines and environmentally safe products to protect the indoor environmental quality and and health of the buildings occupants and cleaning personnel.

Comprehensive green building education is provided in numerous ways to improve the public's knowledge and appreciation for green building through signage, flat panel monitors in the building, tours, Clark College program mailers, and even within the educational offerings in the building.

Starting early with an Eco-Workshop to set environmental goals, a LEED Accredited Professional (Greenstone Architecture, PLLC) was involved through out the entire design and construction process to assist in championing green building and guiding the entire integrated team through the related green design, construction, operations and LEED processes.

LEED Certification:
Although only required to achieve a Silver Rating by the State of Washington in the US Green Building Council's LEED rating system, the building is currently anticipating achieving LEED Gold Certification, and is currently in the certification review process.

LEED Costs and Savings:
The project's team goals were to design, construct and operate the facility to achieve as high a LEED certification as possible without significantly increasing first costs, and maximizing opportunities for savings over the life of the building, which has been designed to last fifty years. Integrated Design decisions were strategically selected to maximize value-based decisions.

Other savings not identified by the LEED process started with programming to reduce physical area and increase efficiency by designing multi-functional spaces. For instance; the ground floor corporate flexible learning center combined multiple program needs in one space that also should become a revenue source as a rental space when not being used by the college for educational programming. Other first cost saving features include limiting the parking area to the zoning standard minimum (reducing development costs), and concrete floors.

Building orientation was also a "free" life time savings strategy. By optimizing the solar orientation, not only are there energy savings from controlling solar heat

gain, it serves to maximize passive heating, and daylighting strategies, including reduced lighting energy demand.

100% on-site infiltration of storm water not only avoided costly connection fees, but afforded a discount of over $6,000 a year from the City storm sewer impact fees.

Selection of water saving fixtures was not only a negligible first-cost item, but will contribute to a lifetime of water conservation and water/sewer service charge savings, in addition to conserving hot water and reducing energy use.

Energy Savings: Estimated at roughly $19,500 per year
Strategies that increase first cost were carefully balanced against program value, and the return on the investments (energy, maintenance, and replacement savings).

Higher quality and more efficient HVAC systems contribute to a life of energy savings, as do high efficiency lighting integrated with photocells, all incorporated with occupancy sensor controls.

On-site renewable energy systems are still a high first-cost choice with a fairly long return on the investment. However we feel the systems are more justifiable by the fact that they serve an educational program demand for the Power Utilities educational programs in the building. The installed systems were paid for by grants, and not from the State construction funds.

At a first cost premium of 1.10%, the additional first cost items relating to LEED (design team and consultant services, materials and construction, and LEED certification costs) will have a excellent return on the investment coupled with a healthier and improved learning and working environment justifies the small percentage of first cost value, especially considering the savings dividends that will continue over the future life of the building.

Everett Community College Gray Wolf Hall — LEED Silver

EVERETT COMMUNITY COLLEGE

Project specifics

Gross square footage:	77,000 sf
Construction cost:	$28,635,000
Project occupied:	04/2009
Energy savings:	$20,000/year / 1,425 MBtus/year
Water savings:	$12,840/year / 120,000 gal/year
Waste recycled:	964 tons / 97%
Incentives:	$103,000
CO_2 savings:	78.6 tons (1.45 lb/kWh)

Design and construction team

Owner's representative:	Larry Price, EvCC
Project manager:	Joe Sullivan, GA
Architect:	LMN Architects
Structural engineer:	MKA
Mechanical engineer:	Notkin
Civil engineer:	MKA
Electrical engineer:	Coffman
Landscape architect:	Site Workshop
GC/CM:	Mortenson

Gray Wolf Hall is the first LEED Certified building to be constructed on the Everett Community College Campus, and as such, the school took every reasonable opportunity available to make the building a model for future campus development.

The college needed flexible learning spaces for the department of Communications and Social Sciences, and required specialized video conferencing spaces for the University Center. These spaces will allow the college to continue to practice its mission to "Stay Close, Go Far."

Use of natural ventilation dovetailed nicely with the college's wish to provide operable windows in all offices. The office wing is angled slightly to the northwest, allowing views of both the Olympics and Cascades. Ample daylight fills the offices, and the direct/indirect lighting is individually controllable.

The General Contractor took every opportunity to provide LEED compliant materials and make certain that all subcontractors signed a pledge to do the same. Their exemplary performance made it possible for the project to exceed its mandate for LEED Silver.

Sustainable Sites

Land improvement: The site was previously 100% impervious (parking lot) and now has vegetated area equal to twice the footprint of the building.

Alternative transportation: The building is within ¼ mile of several bus stops, including a Transit Center. The campus built a new bicycle storage building and re-activated showers in an adjacent building. In addition, parking spaces for hybrid vehicles and carpools were provided in the parking area.

Water Efficiency

Irrigation: High efficiency irrigation heads were used throughout to reduce water usage. In addition, pedestrian walkway runoff irrigates a native-planted rain garden.

Water efficient fixtures: Low flow fixtures were used throughout the facility, including 0.5 gal/flush urinals, 1.6 gal/flush toilets, and electronic sensor faucets.

Energy and Atmosphere

Natural light: All faculty offices are day lit, and those on the south and west facades are sun-shaded. All offices and classrooms have room-darkening roller shades.

Heating and cooling: Only the classroom wing is air conditioned, using a high-efficiency DX cooling unit. The office wing is naturally ventilated. A pair of high-efficiency condensing boilers are used to create heating water for both wings.

Lighting: The offices contain pendant-mounted direct / indirect lighting with four switchable lighting levels for occupant comfort. Classrooms have daylight zones switched separately from non-daylight zones, and whiteboards can continue to be lit even when projection systems are in use. Occupancy sensors are used in classrooms and restrooms.

Material and Resources

Construction waste management: The contractor was able to divert nearly 100% of the construction waste from landfills. This was due in large part through the re-use, on site, of the existing parking lot as fill for foundations.

Occupant recycling: The EvCC has an exemplary recycling program, including bottles, cans and paper. Receptacles are located throughout the campus.

Recycled materials: Includes fly ash in concrete, rebar, masonry ties, metal decking, insulation, gypsum wallboard, and aluminum curtain wall systems. Cabinetry substrate was 100% recycled and FSC certified.

Local materials: Includes brick, concrete (both aggregate and cement), rebar, and foam insulation.

Indoor Environmental Quality

Low-emitting materials: Formaldehyde-free MDF and low- or no-VOC paints were specified, all carpet is Green Seal compliant, and all sealants and coatings were reviewed by the construction team prior to use in the building. All contractors signed pledges to comply with the LEED goals of the project, and signs regarding the LEED goals were posted in highly visible locations by the contractor.

Chemical and Pollutant Source Control: Removable recessed walk-off mats were installed, MERV-13 filters were installed in the air handlers, and all copy and work rooms were exhausted separately from the main building return air.

Views: 100% of regularly occupied spaces have access to views.

Innovation in design

Green Cleaning: EvCC is committed to sustainable cleaning practices, and has implemented the OS1 sustainable cleaning program.

Exemplary Performance:

Maximize Open Space: project installed vegetated open space equal to more than double the footprint of the building.

Construction Waste Management: 97% of construction waste was diverted from landfills.

Alternative Transportation: The campus has a comprehensive transportation management plan which is audited regularly for effectiveness.

Washington Youth Academy

LEED Silver

National Guard Youth ChalleNGe Program

Project specifics

Gross square footage:	18,050 sf
Construction cost:	$3,594,994
Project occupied:	01/2009
Energy savings:	$1,720 /yr, 175.2 MMbtu/yr
Water savings:	$2,935 /yr, 395,000 gal/yr
Added LEED cost*:	$ 92,400
Incentives:	N/A
LEED Payback**:	19.8 year payback
CO_2 savings:	6.4 tons

Design and construction team

Owner's representative:	Ron Cross, Military Department
Project manager:	Yelena Semenova, Dept. of General Administration
Architect:	Integrus Architecture
Structural engineer:	Integrus Architecture
Mechanical engineer:	Inventrix Engineering
Civil engineer:	AHBL
Electrical engineer:	Inventrix Engineering
General contractor:	CE&C

Washington Youth Academy is program by the Washington State National Guard, in partnership with the Bremerton School District. The program is part of the National Guard Youth ChalleNGe that helps "at risk" youth who are 18 years old and have drop out of high school.

The program offers a prescriptive, 22 week regiment of activities for these men and women. The intent is to provide a program with teachers and staff that train them in some basic learning skills. At the end of the training period the youth will have completed a GED or will return to their high school to complete their requirements for graduation. The initial program is followed by a 5 year partnership with a volunteer mentor who tracks and helps the youth.

The program uses the sustainable features as a teachable opportunity for the Cadets for what makes a better environment so that they make informed choices for themselves and their families. When they are first introduced to the program, they are given an orientation on the building's sustainable feature explaining how these impact their lives. As they are cleaning their dorm and work areas, they are being trained in the use of green cleaning products made available by the program, so they may use these in future jobs or their home.

The Program was able to reuse and adapt existing site components available at the Washington National Guard's campus in Bremerton to help create a more sustainable approach to project. Some components are: the existing military vehicle service yard was modified to add the required new parking area; the existing Readiness Center kitchen and dining area is used for the Cadets as well as the Guard staff on week end duty; the existing Armory was renovated for cadet physical training and added staff office space.

The existing site had a previously designed and installed stormwater treatment and detention system that was able to be used without disturbing the existing vegetation or causing any new excavation.

Phone: (360) 902-7199 Fax: (360) 753-2848
Email: ssimpso@ga.wa.gov

General Administration
STATE OF WASHINGTON

Sustainable sites

Land improvement:
Existing, underutilized stormwater system was used for the new the impervious surfaces

Alternative transportation:
Bikes racks and showers are provided in the Readiness Center.
Parking stalls for hybrid electric vehicles in prominent and desirable parking locations to encourage their use.

Light pollution reduction:
The exterior light fixtures were located and oriented to contain any light within the project area.

Water efficiency

Irrigation:
Drought tolerant plants were planted and, once established, require no irrigation.

Water efficient fixtures:
Water efficient faucets, urinals, toilets and shower heads were included to reduce water use by 33%.

Energy and atmosphere

Natural light:
Natural day lighting was used in occupied spaces to enhance feel and look.

Heating and cooling:
Natural ventilation was used in lieu of a conventional HVAC system to save cost, provide more air changes and eliminate the use of refrigerants.

Lighting:
The electrical design limited energy costs by the use of dimming sensors and dimming ballasts in the light fixtures.

Green Power:
Green power from local, sustainable source was provided for a minimum two year period.

Material and resources

Occupant recycling:
Recycling of the program's activities provided at the campus.

Local materials:
Wood products from the region were used throughout as the structural framing systems in the form of glu-lam products.

Indoor environmental quality

Low-emitting materials:
Low-emitting materials for flooring, paints and sealants were selected for good indoor air quality for the project.

Innovation in design

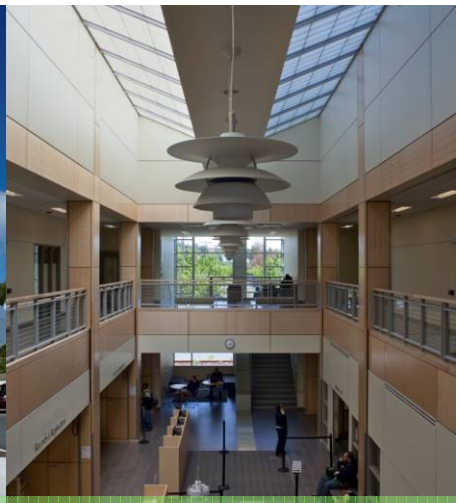
Education:
The staff created several elements used to educate the Cadets and family as to LEED features of the project. A brochure and a poster were developed that identifies the sustainable features of the building. The brochure is given as a hand out for the Cadets and visitors. The Cadets are given an overview the sustainable building features at their initial orientation.

Green Cleaning:
Green cleaning products were included in project for a more sustainable environment and as an example for the cadet's understanding and education.

Exemplary Performance:
For exemplary performance used to achieve LEED credits Construction Waste Management, and extensive use regional materials.

*construction and fees.

**Payback equals the added cost for LEED related consultant fees and construction costs, minus the incentives, divided by the savings from utilities based on the modeling performed for the LEED submittal which compares the "as-built" building to an ASHRAE 90.1 building.



Olympic College Humanities and Student Services

LEED Silver (targeted)

OLYMPIC COLLEGE

Project specifics

Gross square footage:	85,012 sf
Construction cost:	$ 21,636,034 (MACC)
Project occupied:	01/2010
Energy savings:	$35,965 and 1,221,528 MMBtus annually;
Water savings:	$2,889 and 501,942 gallons annually
Waste recycled:	581.9 tons / 98.6%
Added LEED cost:	$104,407; 0.43 % of Construction Cost
Incentives:	No utility incentive funding was received
LEED Payback:	2.69 years
CO_2 savings:	162 tons annually

Design and construction team

Owner's representative:	Barbara Martin, VP of Administration, Olympic College, Bremerton, WA
Project manager:	Ronnie Hill, E&AS
Architect:	Yost Grube Hall Architecture
Associate Architect:	Rice Fergus Miller Architecture & Planning
Structural engineer:	KPFF Consulting Engineers
Mechanical engineer:	Notkin Engineering
Civil engineer:	SVR Design Co.
Electrical engineer:	Interface Engineering
Landscape architect:	SVR Design Co.
LEED consultant:	Green Building Services, Inc.
General contractor:	Pease and Sons, Inc.

The new Olympic College Humanities and Student Services Building completes a trio of new academic buildings that form the new gateway for the campus.

The building includes a three story academic wing and a two-story Student Services wing.

The academic wing provides a new home for the Division of Social Sciences and Humanities, consolidating administrative and teaching spaces that had previously been scattered among a number of buildings on campus. The twenty-five new teaching spaces include two distance learning classrooms, a computer-based language lab, an anthropology lab and a 144 seat lecture hall as well as general-purpose classrooms. New spaces in the academic wing also include Social Sciences and Humanities Division and faculty offices and the Writing Center.

The Student Services wing arranges student support functions around a skylit two-story atrium for convenient one-stop service. Student Services programs brought together in the new building include Records & Registration, Financial Aid, Advising, Counseling, and centers for Veterans' Programs, Women's Programs, Access Services, Tutoring, Testing and Careers.

Phone: (360) 902-7199 Fax: (360) 753-2848
Email: ssimpso@ga.wa.gov

Sustainable sites

Land improvement: Site selection and Brownfield redevelopment are important factors in reducing environmental impact; the building location takes advantage of existing infrastructure, utilities and public transportation which help protect Greenfields and preserve natural resources. Open space around the building will be retained for the life of the building.

Alternative transportation: No new parking was developed as a result of this project. Regular bus lines serve the campus and sufficient bicycle parking is provided around the building with nearby shower and changing facilities thereby promoting alternative fuel transportation.

Light pollution reduction: The site lighting is full cutoff with no uplight to reduce sky glow and the unnecessary lighting of the sky. Interior lighting was aimed away from windows and skylights for efficient use of light.

Water efficiency

Irrigation: The landscape design incorporates plant material suited for the region to reduce long-term irrigation needs and were grouped to increase water efficiency by reducing water consumption in the landscaping by 59% over conventional means.

Water efficient fixtures: The building reduces water use by 20.4% via selected low-flow fixtures.

Energy and atmosphere

Natural light: The Humanities and Student Services Building takes advantage of natural lighting during the day. The offices and classrooms incorporate operable windows that allow building operators to take advantage of the natural air currents to minimize the use of mechanical heating and cooling. Daylight sensors continually monitor available natural light and turn off fixtures when adequate daylight is available. Sunshades on the south facing windows reduce glare, solar heat gains and the need for artificial lighting.

Heating and cooling: The building's increased energy performance of 40% better than ASHRAE 90.1-1999 lessens the environmental impact of energy production and improves energy costs. This is accomplished by using selected high efficiency direct/indirect lighting fixtures, occupancy sensors, day lighting controls, increased wall and roof U-values, high efficiency glazing and a heat recovery system. The HVAC consists of four 100% outside air, VAV air handling units with cooling provided by chilled water coils connected to a VAV air-cooled chiller. Tempering of the outside air at the AHUs and individual VAV boxes is provided by the campus hot water system. Heat exchangers at each AHU pre-heat outside air prior to introducing it to the heating coil. The heat exchanger is used rather than utilizing return air for pre-heating or pre-cooling of outside air.

Lighting: . Efficient lighting fixtures use the latest technology to reduce glare, improve worker productivity, and generate visual comfort. Occupancy sensors turn lights off when people are not present.

Material and resources

Occupant recycling: Recycling collection areas were located throughout the building to provide staff and students with the opportunity to divert waste from landfills.

Recycle materials: 35.48% of materials in the project contain recycled content Recycled materials included concrete, steel, gypsum, roofing materials, etc.

Local materials: 33.91% are manufactured regionally and 13.08% are extracted regionally. Regionally sourced materials include wood, brick, steel, glazing, aggregate, etc.

Indoor environmental quality

Low-emitting materials: Indoor air quality will be maintained with the use of low-emitting adhesives, paints, carpets, and composites.

Innovation in design

Education: Olympic College will be providing signage and tours of the Humanities Building focused on sustainability in an effort to educate the community about green building practices.

Green Cleaning: The cleaning staff will be trained in green cleaning practices and their use. Green Seal Certified products will be used.

Integrated Pest Management: The College staff will use the least-toxic means possible to address any potential pest concerns.

Exemplary Performance: 98%, or more than 580 tons, of the building's construction waste was diverted from landfill.

Appendices:

2. GA LEED Quality Assurance Process Instructions and Forms

State of Washington

Leadership in Energy and Environmental Design

(LEED™)

Quality Assurance Process

Guidelines

For State Agency/College

and

University Facilities

Administered by:

The Department of General Administration

September 2007

Background

With the passage of Engrossed Substitute Senate Bill 5509 – Related to High Performance Green Building, State facilities will now be designed and built to the LEED™ Silver standard. LEED™ is a Green Building Rating System developed by the US Green Building Council. A non-profit consensus based organization made up of architect and engineering firms, product manufacturers, and federal, state and local government agencies. The bill has now been transferred into statute at RCW 39.35.D. The pertinent sections in RCW 39.35D reads as follows:

39.35.D 030 (1) All major facility projects of public agencies receiving any funding in a state capital budget, or projects financed through a financing contract as defined in RCW 39.94.020, must be designed, constructed, and certified to at least the LEED silver standard. This subsection applies to major facility projects that have not entered the design phase prior to the effective date of this section and to the extent appropriate LEED silver standards exist for that type of building or facility.

The Department of General Administration (GA) was given a leadership role in the development of procedures to ensure the state is successful in this effort. The pertinent section in the legislation reads as follows:

39.35.D 060 (1)(a) The department (GA), in consultation with affected public agencies, shall develop and issue guidelines for administering this chapter for public agencies. The purpose of the guidelines is to define a procedure and method for employing and verifying activities necessary for certification to at least the LEED silver standard for major facility projects.

GA is also responsible for reporting to the Governor and the Legislature related to progress implementing this chapter as stated in the following section:

39.35.D 030 (3)(a) Public agencies, under this section, shall monitor and document ongoing operating savings resulting from major facility projects designed, constructed, and certified as required under this section.

(b) Public agencies, under this section, shall report annually to the department on major facility projects and operating savings.

(4) The department shall consolidate the reports required in subsection (3) of this section into one report and report to the governor and legislature by September 1st of each even-numbered year beginning in 2006 and ending in 2016. In its report, the department shall also report on the implementation of this chapter, including reasons why the LEED standard was not used as required by section 2 (5)(b) of this act. The department shall make recommendations regarding the ongoing implementation of this chapter, including a discussion of incentives and disincentives related to implementing this chapter.

In response to the passage of ESSB 5509 GA assembled a committee of the Affected Agencies, as instructed in the legislation, and developed the following guidelines and process. GA would like to thank the Affected Agencies Committee for their commitment to this effort.

Affected Agencies Committee

Keith Bloom, Washington State University
Tom Henderson, State Community & Tech College Board
Pete Babington, Highline Comm. College
Nancy Deakins, Dept. of Soc. & Health Services
Paul Szumlanski, GA, E & A Services
JR Fulton, University of Washington
Pam Jenkins, Dept. of Corrections
John Havens, Military
Bill Shisler, Dept. of Transportation
Stuart Simpson, GA, E & A Services

Contact

GA Contact: Stuart Simpson, Sustainable Building Advisor, Program Lead
Phone: (360) 902-7199 E-Mail: ssimpso@ga.wa.gov

Introduction

The process outlined below will help ensure projects are on the right path to attain LEED™ Silver certification through the US Green Building Council (USGBC). This process applies to all new major facility project construction and renovation projects over 5,000 GSF, where the renovation costs exceed 50% of the building assessed value. Some projects may be exempt based on the following criteria:

39.35.D 020 (b) "Major facility project" does not include: (i) Projects for which the department, public school district, or other applicable agency and the design team determine the LEED silver standard or the Washington sustainable school design protocol to be not practicable; or (ii) transmitter buildings, pumping stations, hospitals, research facilities primarily used for sponsored laboratory experimentation, laboratory research, or laboratory training in research methods, or other similar building types as determined by the department. When the LEED silver standard is determined to be not practicable for a project, then it must be determined if any LEED standard is practicable for the project. If LEED standards or the Washington sustainable school design protocol are not followed for the project, the public school district or public agency shall report these reasons to the department.

For the projects that apply, the forms needed to complete the State LEED™ Quality Assurance Process are available for download at: www.ga.wa.gov/eas/green. Once at the website select "Submittal Forms".

To complete the forms, fill in the information requested in the blank spaces in yellow. Also make sure to attach the associated forms and information that are indicated on each of the GA Submittal forms. This site also has information regarding Frequently Asked Questions (FAQs) and other helpful information regarding the process and LEED™. GA Submittal Forms, and associated forms and information should be submitted by e-mailed to: SustainableBA@ga.wa.gov . This e-mail address can also be used for correspondence related to this process.

Projects For Which No Submittal is Required

If a project is new construction under 5,000 GSF or is a renovation project with a cost of less than 50% of the assessed value, it is exempt. No submittal is required. Assessed value can be based on County Assessors records, or replacement value, it is the owner's choice.

For projects where the design was initiated before July 24, 2005, no submittal is required.

The State Project Manager and/or owner's representative can determine if no submittal is required. If there is a question about whether a project would need to complete a form, contact the Sustainable Building Advisor at the Department of General Administration (360) 902-7199.

Exemption Declaration

The Architect or owner's representative will complete the Exemption Declaration form, if applicable. If an exemption is not being sought, skip this section and move to the Pre-Design/Schematic Design section.

Non-occupied buildings, hospitals, and laboratory facilities are exempt. A teaching lab, however, would not necessarily be exempt. The "Facility Type Exemption Declaration" must be completed and submitted during Pre-Design or if there is no Pre-Design, then early in Schematic Design.

There may be some unusual circumstances where LEED™ Silver is "not practicable". An explanation for using the "Not Practicable" Exemption Declaration form is required. The Not Practicable Exemption Declaration can be submitted during Pre-Design, early in Schematic Design, or at any time during the design or construction process when it is determined that compliance with RCW 39.35D is "not practicable".

This one form is used for either Exemption Declaration. The form must include the signature of a senior administrator level position, with the authority to make decisions that will be included in the GA High-Performance Green Building Biennial Report to the Governor and the Legislature. A LEED™ Checklist and one page description of why the exemption is being sought must also be included with the form.

GA Response

The GA-Sustainable Building Advisor (GA-SBA) will phone the agency contact to discuss the project if there is a question about the exemption. If the facility does not have a 100% Facility Type Exemption there will be discussion regarding partial compliance and/or submittal recommendations.

If a "Not Practicable" Exemption is being sought, the GA-SBA will phone the agency contact to discuss the recommended LEED™ compliance level, submittals, and reporting. For instance, if LEED™ Silver can not be accomplished, then LEED™ Certified may be appropriate. Certification through the US Green Building Council is required, however, this may also be a tipping point for a project budget. Compliance with the LEED™ Silver standard, without certification may be desired due to budget constraints. In this case, completion of the GA LEED™ Quality Assurance process may be one way to demonstrate a "good faith" effort to meet the intent of the statute.

Pre-Design / Schematic Design Submittal

The Architect or owner's representative will complete the GA Pre-Design/Schematic QA Submittal and associated forms and information after the "eco-charrette" or sustainable building workshop, when a LEED™ Checklist has been prepared. This submittal includes an Environmental Design Considerations form and LEED™ Checklist along with the GA LEED™ QA Submittal. If the project does not have Pre-Design, submit this form and associated documents at Schematic Design. If submittal data has changed from the submittal sent in at Pre-Design, prepare and submit a new Schematic Design GA LEED™ QA Submittal.

GA Response

Comments on the Green Building goals will be provided by the GA-SBA along with identification of free technical and financial assistance, including utility incentive programs and contact names and phone numbers. There is also information regarding the Environmental Design Considerations and Building Commissioning Considerations. Attachments may include utility incentive applications.

Design Development Submittal

The Architect or owner's representative will complete the GA Design Development QA Submittal and associated forms. Project header information can be copied from the Pre-Design/Schematic Design QA Submittal form. The DD QA Submittal includes an updated LEED™ Checklist and a Summary of Green Building Strategies to satisfy the selected LEED™ Credits (1 to 3 page summary). This GA LEED™ QA Submittal must occur at the end of the Design Development phase.

GA Response

A list of potential utility incentive measures may be included, as appropriate, along with comments related to the LEED™ Scorecard and strategies. Suggested items for inclusion in the Construction Documents and for the Pre-Bid and Pre-Construction Conferences will also be included.

Construction Documents Submittal

The Architect or owner's representative will complete the GA LEED™ QA Submittal for the Construction Documents phase and associated forms and information. Project header information can be copied from the Design Development form to expedite completion of this submittal. This submittal also includes an updated LEED™ Checklist and an updated Summary of Green Building Strategies to satisfy selected LEED™ Credits (2 to 4 pages). This submittal must also include an Energy and Water Metering Plan. A template for this plan is provided on the GA Sustainable Design and Construction website. This GA LEED™ QA Submittal must occur at 90% through the Construction Documents phase.

GA Response

Comments will be provided by the GA-SBA as appropriate. This will include suggested activities for successful LEED™ implementation concerning the contractor, and securing utility incentives.

Post Construction Submittal

The Architect or owner's representative will complete the GA LEED™ QA Submittal for Post Construction and associated forms and information. This QA Submittal also includes an updated LEED™ Checklist, an updated Summary Report of Green Building strategies to satisfy selected LEED™ Credits (2 to 4 pages), and 10 pictures of the project illustrating the sustainable features and overall project, along with a brief description of each picture. This GA Submittal must occur at Substantial Completion or soon there after.

GA Response

Comments will be provided by the GA-SBA as appropriate. Final High-Performance Green Building Design and Construction Evaluation Summary will be provided. The Summary Report, LEED™ Checklist, and Pictures with descriptions will be included as a case study on the GA Green Building website.

Closing Comment

The information submitted in this Quality Assurance Process is needed for determining project status to achieve the LEED™ Silver standard. The GA LEED™ QA Submittal forms, associated information, and LEED™ Checklists will be used for the following:

- reporting to the Governor's Office and Legislature
- to identify projects that may need additional assistance to achieve LEED™ Silver
- preparing case studies
- developing an in-house data base of Green Building strategies and products
- determining the cost effectiveness of building to the LEED™ Silver standard
- learning how to best navigate the LEED™ process through the US Green Building Council
- sharing best practices

GA will work to provide information back to the affected agencies through direct emails and/or web site postings so that the State as a whole can be more successful at meeting this ambitious goal.

High-Performance Green Buildings

Exemption Declaration

Received by GA:		Date:	
		Submit to:	sustainableba@ga.wa.gov

Project Name:			Agency/Institution	
Project Number:		GA H-P Green Bldg. #		

	Name	Agency	Phone	E-Mail
Submitted By:				

Conceptual Construction Cost Estimate	
Total Facility Square Footage Estimate	
Project Location/Address	

Facility Type Exemption*	Exempt Space Approx. %	Agency Representative Signature Block
Transmitter Building		
Pumping Station		
Hospital (not including skilled nursing)		Signature
Research Facilities with Laboratories		Name:
		Title:

"Not Practicable" Exemption**	Yes/No	Agency Representative Signature Block
The project will seek US Green Bldg. Council LEED Certification***		
The project will participate in the GA LEED QA process**		
The project will take no further action regarding LEED.		Signature
		Name:
		Title:

This Exemption Submittal includes the following:

Provide a one page description of why the exemption is being sought. ☐

Provide a LEED Checklist indicating which LEED Credits may be "practicable" for the project. ☐ LEED Score attempting ☐

* If a "Facility Type" exemption is requested and verified, no further submittals are required.

** If a "Not Practicable" exemption is requested, the project should pursue LEED to the level that is "practicable" for the project. Projects are encouraged to participate in the GA LEED QA process and subsequent annual reporting of the energy and water/sewer consumption to GA. This will demonstrate a "Good Faith" effort consistent with the intent of RCW 39.35D. Complete the appropriate GA LEED QA forms as the project progresses through the design and construction process. Feedback from GA will help projects to achieve the proposed LEED goal and will help to maximize utility incentives.

*** If the project continues to seek LEED Certification the project should also participate in the GA LEED QA process.

Form Last Updated
April 2006

High-Performance Green Buildings

Received by GA:

Date:

Pre-Design/Schematic Design Submittal (submit after the eco-charrette)

Submit to: sustainableba@ga.wa.gov

Project Name		Agency/Institution	
Project Number	GA H-P Green Bldg. #		
Building Use			

	Name	Agency or Firm	Phone	E-Mail
Submitted By				

Conceptual Construction Cost Estimate

Total Facility Square Footage Estimate

Project Location/Address

Has the project been registered with the US Green Building Council? Yes / No

	Begin SD (Date)	Begin DD (Date)	Begin CD (Date)	Begin Construction (Date)	End Construction (Date)
Project Schedule					

This submittal includes the following:

1 Provide a completed Environmental Design Considerations form*

2 Provide an updated LEED Checklist*

* These are required by the new Energy Life Cycle Cost Analysis (ELCCA) process

Provide a list of the following:	Name	Agency or Firm	Phone	E-Mail
State Project Manager				
Agency Representative				
Architect				
LEED Submittal Preparation By				

Form Last Updated
April 2006

Figure 3.1 Environmental Design Considerations Form

Environmental Design Consideration

Version 1.1 October 2008

Project Title:					Date:		
Owner:					Owner's Project No:		
Owner's Rep:			Completed by:				
Rep's E-mail:			Firm:				
Rep's Phone No:			E-mail:				
Rep's Fax No:			Phone No:				
Bldg Type:							
Approx. sq. ft:		☐ New		☐ Remodel		☐ Addition	

The following are elements of an energy efficient design and can contribute to LEED™ points. Check 'Yes' to indicate items that will be considered in the High Performance Alternative of the Energy Life Cycle Cost Analysis

	Does the owner have CO2 reduction goals?		☐ Yes	☐ No	
	Site Considerations		**Yes**	**No**	**N/A**
1)	Building orientated to optimize energy efficiency		☐	☐	☐
2)	Landscaping to provide solar shading		☐	☐	☐
	Envelope				
3)	Energy StarTM compliant roof		☐	☐	☐
4)	Roof insulation to meet or exceed R-30 rigid or R-38 batt*		☐	☐	☐
5)	Wall insulation with				
	a)	wood studs, R-19 batt insulation*	☐	☐	☐
	b)	metal studs, R-19 batt insulation + R-3.8 continuous rigid*	☐	☐	☐
	c)	mass wall, R-10 rigid insulation*	☐	☐	☐
6)	Windows:				
	a)	U=0.45 (reduce heat loss) or lower*	☐	☐	☐
	b)	SHGC=0.45 (reduce cooling load) or lower*	☐	☐	☐
	c)	Exceed 50% Visual Light Transmittance (increased daylighting)*	☐	☐	☐
7)	Skylights U=0.60 or lower*		☐	☐	☐
8)	Doors U=0.50 or lower*		☐	☐	☐
	Lighting				
9)	Incorporate daylighting in over 50% of occupied critical visual task areas		☐	☐	☐
10)	Automated daylight harvesting controls		☐	☐	☐
11)	Dimmable ballasts tied to EMCS for demand control of lighting		☐	☐	☐
12)	Fluorescent lighting for the gym, multipurpose, commons or other High Bay application		☐	☐	☐
13)	Lighting power densities will meet or be lower than the following*				
	a)	Classroom: 1.15 watts per square foot (w/sf)	☐	☐	☐
	b)	Gym: 1.00 w/sf (1.8 w/sf over competitive area)	☐	☐	☐
	c)	Office: 1.00 w/sf	☐	☐	☐
	d)	Library: 1.25 w/sf	☐	☐	☐
	e)	Corridor: 0.70 w/sf	☐	☐	☐

* Represents ELCCA prescriptive elements

EMCS - Energy Management Control System

	Renewable Energy	Yes	No	N/A
14)	Incorporate solar photovoltaic (PV) technology:	☐	☐	☐
	a) for general building power	☐	☐	☐
	b) for isolated loads in remote locations (e.g. crosswalks)	☐	☐	☐
15)	Solar water heater	☐	☐	☐
16)	Wind power	☐	☐	☐
17)	Heat recovery systems (water and/or air side)	☐	☐	☐
	Water Conservation			
18)	Rain water/gray water collection (irrigation or toilets)	☐	☐	☐
19)	Water efficient landscaping (drought talerant plants, drip irrigation)	☐	☐	☐
20)	Waterless or 1 Pint Urinals	☐	☐	☐
21)	Water efficient fixtures (dual flush toilets, 0.5gpm faucets, 1.5gpm showers)	☐	☐	☐
22)	Automated lavatory faucets	☐	☐	☐
	HVAC & Electrical			
23)	Natural ventilation in lieu of mechanical cooling or for mixed mode	☐	☐	☐
24)	Displacement ventilation (low wall or underfloor)	☐	☐	☐
25)	Thermal Storage (ice or hot/cold water)	☐	☐	☐
26)	Groundwater or ground coupled heat pump system	☐	☐	☐
27)	Variable Refrigerant Flow (VRF) HVAC system	☐	☐	☐
28)	Radiant Floor	☐	☐	☐
29)	Chilled beams	☐	☐	☐
30)	Premium efficiency motors	☐	☐	☐
31)	Variable flow fans and pumping systems	☐	☐	☐
32)	Heat recovery systems (between exhaust and supply, or other)	☐	☐	☐
33)	Evaporative cooling to augment or replace mechanical cooling	☐	☐	☐
34)	High efficiency boilers (>90%, modular)	☐	☐	☐
35)	Biomass or biogas boilers	☐	☐	☐
36)	High efficiency chillers (variable speed, heat recovery, etc.)	☐	☐	☐
	Controls			
37)	Energy trending energy management control system (EMCS)	☐	☐	☐
38)	Demand control using CO2 or VOC monitoring (large spaces)	☐	☐	☐
39)	Occupancy control of outside air and/or temperature setback	☐	☐	☐
	Uninterruptible Power			
40)	Fuel cells for uninterruptible power systems	☐	☐	☐
	Quality Assurance			
41)	Independent Building Commissioning Agent hired by owner	☐	☐	☐

List other energy efficient items or strategies that will be considered:

Submit to GA by FAX: (360) 753-2848
or by E-Mail: ELCCA@ga.wa.gov

High-Performance Green Buildings

Design Development Submittal (submit at the end of DD)

Received by GA:

Date:

Submit to: sustainableba@ga.wa.gov

Project Name		Agency/Institution	
Project Number		GA H-P Green Bldg. #	

	Name	Agency or Firm	Phone	E-Mail
Submitted By				

This submittal includes the following:

1 Provide an updated LEED Checklist

2 Provide a one to three page summary of strategies used to meet LEED Credits

Form Last Updated
April 2006

High-Performance Green Buildings

Received by GA:

Date:

Construction Documents Submittal (submit at 90% CD)

Submit to: sustainableba@ga.wa.gov

Project Name:		Agency/Institution:	
Project Number:	GA H-P Green Bldg. #		

	Name	Agency or Firm	Phone	E-Mail
Submitted By:				

This submittal includes the following:

1 Provide an updated LEED Checklist

2 Provide a two to four page summary of strategies used to meet LEED Credits

3 Provide the Energy and Water Metering Plan

Form Last Updated
April 2006

High-Performance Green Buildings

Received by GA:

Date:

Post Construction Submittal (submit at substantial completion)

Submit to: sustainableba@ga.wa.gov

Project Name			Agency/Institution	
Project Number		GA H-P Green Bldg.#		
Final Square Footage (Gross)	-			

	Name	Agency or Firm	Phone	E-Mail
Submitted By				

	Name	Company	Phone	E-Mail
General Contractor				

Construction Related Costs	
Facility Construction Costs (Est.)	$ -
Site Work & Related Costs* (Est.)	$ -
Max.Allowable Construct.Costs(MACC)	$ -

Estimated Construction Costs Associated with LEED**	
Costs Assoc. w/LEED (Est.)	$ -
Savings Assoc. w/LEED (Est.)	$ -

Total Project Cost	$ -
Total Added LEED Cost	$ -

Consultant Related Costs	
A) A/E Fees (Base)	$ -
B) Additional A/E Fees	$ -
C) Commissioning	$ -
LEED Related Fees including Consultants***	
D) LEED Related Consultant Fees	$ -
E) USGBC LEED Fees	$ -
Total Consultant Fees (A,B,C,D & E)	$ -

Payback for LEED	#DIV/0!

Energy and Water/Sewer Savings and Consumption Est.s (Taken from the LEED Submittal)	
Est. Annual Energy Savings (% $)	
Est. Annual Energy Savings ($/Yr)	$ -
Est. Total Energy Use (kBtu/Yr)	
Est. Total Energy Use ($/Yr)	$ -
Est. Renew. Energy Generated (kWh/yr)	
Est. Renew. Energy Generated (Btuh/yr)	
Est. Annual Water Savings (% $)	
Est. Annual Water Savings ($/Yr)	$ -
Est. Annual Water Use (Gals/Yr)	
Est. Annual Water Cost ($/Yr)	$ -
Est. Annual Sewer Savings ($/yr)	$ -
Est. Annual Sewer Savings (Gals/yr)	
Total Estimated Annual Savings	$ -

* Include demolition costs as part of site work.
** Make a best guess. Use conventional construction techniques as a base for comparison. Provide description of items included on separate attachment.
*** Provide description on attachment.

Heating Energy (convert)	
Est.Gas Use (therms/yr)	Est.Electric Use (kWh/yr)
Est.Gas Svg (therms/yr)	Est.Electric Svg (kWh/yr)
0	0

Construction Waste Recycled (%)	Construction Waste Recycled (tons)

This submittal includes the following:

- ☐ Provide an updated LEED Checklist.
- ☐ Provide a two to four page summary of strategies used to meet LEED Credits, include discussion of costs & savings.
- ☐ Provide 10 pictures of the project illustrating the sustainable features and overall project (and descriptions)

CO2 tons saved	0

	Gas	Electricity	Water	Other	Total
Utility Incentives Received	$ -	$ -	$ -	$ -	$ -

Form Last Updated
October 2008

Appendices:

3. Affected Agencies Committee Agency Contacts

ESSB 5509 Last Update: Aug-10

Affected Agency Contacts

Agency/Inst.	Name	Phone	Position	E-mail	Projects Managed
GA	Paul Szulanski	360-902-7271	Deputy Ass. Director	pszumla@ga.wa.gov	GA, Community & Tech Colleges, Agencies
GA	Bob Dixon	360-902-7265	Deputy Ass. Director	bdixom@ga.wa.gov	GA, Community & Tech Colleges, Agencies
GA	John Lynch	360-902-7227	Assist. Director	jlynch@ga.wa.gov	GA, Community & Tech Colleges, Agencies
GA	Stuart Simpson	360-902-7199	Green Building Advisor	ssimpso@ga.wa.gov	Tracking all State LEED Projects
DOT Ferries	Mark Scott	360-705-7367	Project Manager	scottm@wsdot.wa.gov	DOT Ferries facilities
DOT	Terri Sinclair-Olson	360-705-7360	Project Delivery Mgr	SinclaT@wsdot.wa.gov	DOT facilities
DNR	Dennis Flynn	360-902-1163	Facilities Manager	dennis.flynn@drn.wa.gov	DNR facilities
DFW					DFW facilities
Parks	Richard Brown	360-902-0932	Construction Mgr.	richard.brown@parks.wa.gov	Parks facilities
UW	Clara Simon	206-543-2258	Sustainability Manager	simonch@u.washington.edu	UW, UWT & UWB facilities
WSU	Keith Bloom	509.335.9016	Quality Assurance	bloom@wsu.edu	WSU, WSUS & WSUV facilities
WWU	Tim Wynn	360-650-3496	Director of Facilities Mgt.	Tim.Winn@wwu.edu	WWU facilities
EWU	K.C. Traver	509-359-4333	Director of Construction	ktraver@facilities.ewu.edu	EWU fatilities
CWU	Joanne Hilleman	509-963-2909	Construction Mgr.	HillemaJ@cwu.EDU	CWU facilties
CWU	Bill Vertrees	509-963-1013	AVP for Faciltities	vertreeb@cwu.edu	CWU facilties
TESC	Paul Smith	(360) 867-6115	Director of Facilities	smithpa@evergreen.edu	Evergreen State College facilities
DOC	Kent Nugen	360.725.8353	Deputy Ass. Director	kdnugen@doc1.wa.gov	DOC facilities
DOC	Julie Vanneste	(360) 725-8396	Resource Conservation Mgr	javanneste@doc1.wa.gov	DOC facilities
DSHS	Nancy Deakins	360-902-8161	Deputy Ass. Director	deakink@dshs.wa.gov	DSHS facilities
CTED	Greg Black	(360) 725-2916	Program Manager	gregb@cted.wa.gov	CTED - Affordable Housing Grants
CTED	Mike Kendall	(360) 725-3073	Program Coodinator	michaelk@cted.wa.gov	CTED - Local Gov & Non-Profits Grants
DIS	Sally Alhadoff	(360) 902-0312	Wheeler Project Manager	SallyA@dis.wa.gov	DIS Wheeler Project

Construction Ctr of Excellence	Julia Cordero	425-235-2352 ext. 5582	jcordero@rtc.edu

Ecology's Green Team			
Name	**Regional Office**	**Phone**	**E-mail**
Vicki Colgan	NW Region - Bellevue	(425) 649-7224	vcol461@ecy.wa.gov
Darlene Frye - PMT sp	Ctrl Region - Yakima	(509) 457-7123	dfry461@ecy.wa.gov
Allison Fisher-Gray	E. Region - Spokane	(509) 329-3448	agra461@ecy.wa.gov
	Cent. Region - Yakima		
	HQ - Olympia		
	SW Region - Olympia		

Appendices:

4. Agency/University Contacts for LEED Projects and Energy/Water Reporting

Agency/College/University Contact List

State LEED Project Energy and Water Reporting

Date of Entry	Agency or Institution	LEED Project Name	Contact Name	Phone #	E-Mail	Date Started	Form Sent	Number of LEED Projects
	Bates Technical College		Marty Mattes					
12/17/2009	Bellevue College		Laurel LaFever	425-564-2491	laurel.lafever@bellevuecollege.edu	Dec-08	12/17/2009	1
	Bellingham Technical College							
	Big Bend Community College							
	Cascadia Community College							
	Centralia College	New Science Center	Gil Elder	360-736-9391 x434	gelder@centralia.edu			
	Clark College	East County Stallite Campus	Jim Green	360-992-2408	jgreen@clark.edu			
	Clover Park Technical College							
	Columbia Basin Comm. College							
	Edmonds Community College							
	Everett Community College	Graywolf Hall	Molly Beeman	425-388-9070	mbeeman@everettcc.edu			
	Grays Harbor College							
	Green River Comm. College							
	Highline Community College							
	Lake Washington Tech. College							
	Lower Columbia College							
	North Seattle Comm. College							
	Olympic College		Sam Powers	**360.475.7811**	spowers@olympic.edu			
	Peninsula College							
	Pierce College - Ft. Steilacoom							
	Pierce College - Puyallup							
	Renton Technical College							
	Seattle Central Comm. College							
	Seattle Vocational Institute							
	Shoreline Community College							
	Skagit Valley College		Dennis					
	So Puget Sound Comm. College		Penny Kole					
	So Seattle Community College							
	Spokane Community College							
	Spokane Falls Comm. College							
	Tacoma Community College		Buzz Kane		bkane@tacomacc.edu			
	Walla Walla Comm. College							
	Wenatchee Valley College							
	Whatcom Community College							
	Yakima Valley College							
	University of WA - Seattle	Several projects	Garrin Sakagawa	206-543-4208	sakagawa@u.washington.edu			2
	University of WA - Bothell							
	University of WA - Tacoma							
	WA State University - Pullman							
	WA State University - Spokane							
	WA State University - Vancouver							
	Western WA University							
	Western WA University							
	Western WA University							
	Eastern WA University							
	Eastern WA University							
	Eastern WA University							
	Central WA University							
	Central WA University							
	Central WA University							
	The Evergreen State College							
	WA School for the Deaf							
	WA State School for the Blind	Kennedy Fitness Center	Robert Tracey	360-696-6321	rob.tracey@wssb.wa.gov			1
	Dept. of Corrections	Several projects	Julie Vanneste	(360) 725-8396				4
	Dept. of Fish and Wildlife							
	Dept. of Natural Resources							
	Dept. of Soc. & Health Services							
	Dept. of Veteran Affairs							

Appendices:

5. Metering Guide and Metering Plan Template

General Administration
STATE OF WASHINGTON

How to comply with state law on High Performance Public Buildings

Guidance for State Project Managers

Monitoring Requirements
The state law (RCW 39.35D) on high-performance public buildings – those that are constructed and operate in a way that reduce impacts to the environment compared to a traditional building – requires agencies and universities to report annual savings to the Department of General Administration.

To capture these savings, the proper metering capabilities must be designed and installed in these buildings during construction. This includes the monitoring of electrical and other energy consumption (gas, steam, hot water, oil, propane, solid fuel, or other) that is not separately billed, such as on a campus where electricity and heating energy is centrally metered.

In-building water use must also be monitored, including the use of reclaimed water (treated wastewater) or captured rain water. Irrigation systems connected with the building should be monitored separately. Irrigation systems that are connected to a campus system do not have to be tracked separately.

Recommended Monitoring Strategies
The preferred method of monitoring is to integrate these capabilities into the Energy Management Control System (EMCS). Current transformers (CTs) are designed to monitor the total power for the building and are connected to the EMCS, providing the ability to easily monitor electricity consumption. If a building is separately metered, the utility company may be able to provide a pulser that can be connected to the EMCS.

For natural gas heating energy systems, check with the natural gas company to determine if a pulser can be added to the gas meter to provide a signal for the EMCS.

For a campus hot water system, a Btu meter connected to the EMCS may be the best system for determining the heating energy used by the building.

You should work with the owner, design engineer and the commissioning authority to develop a strategy that will work for the building.

Commission the Monitoring Systems
All monitoring systems must be commissioned and programmed to collect the consumption of energy and water. It is further recommended that the commissioning authority check the monitoring system(s) after ten (10) months during the Enhanced Commissioning effort of the EMCS, HVAC, and electrical systems. This is to ensure that monitoring systems are functioning properly and that the proper data is being collected for reporting to GA.

Questions?
Contact Stuart Simpson, GA's Sustainable Building Advisor, at (360) 902-7199 or ssimpso@ga.wa.gov.

State LEED Project
Energy and Water Metering Plan

Submit to: GASustainableBA@ga.wa.gov
& Stuart Simpson: ssimpso@ga.wa.gov

Project Name: project name Date: date
Project Number: project number
Institution or Agency Name: Institution or Agency Name
Submitted By: Name Phone: phone #
Email: email address
State Project Manager: Name Phone: phone #
Email: email address

Provide a brief description of how the following will be measured in the proposed LEED building. If the project will not be using a form of energy or irrigation shown below, simply indicate "NA" in that space. The description should be adequate to describe how the owner will measure the energy and water use on a monthly basis. The owner will in turn report that usage to General Administration on an annual basis per RCW 39.35D. This plan is to ensure that a monitoring strategy has been developed for each State LEED project. This plan must be submitted as part of the Construction Documents submittal in the GA LEED QA process.

Electricity:

Gas:

Other heating fuel (oil, propane, wood, steam, or hot water): fuel

Chilled water:

Domestic Hot Water:

Water:

Irrigation:

Reclaimed or captured water:

Renewable Energy Generated:

Appendices:

6. Energy and Water Savings Reporting Spreadsheet-Cost and Savings Data

State LEED Project
Energy and Water Consumption and Savings Reporting Form

Date: 7/16/2010 Submit by email to: SustainableBA@GA.WA.GOV

Complete all yellow boxes. If Not Applicable mark "NA".
Print on legal size paper

Building Name:	New Science Center	**Submitted By:**	Gil Elder
Institution Name:	Centralia College	**Phone:**	360-736-9391 x. 434
Location:	Centralia, WA	**Email:**	gelder@centralia.edu
University/Agency:	Centralia College		

			%/Year	
Building Use:	Classroom, Offices, and Labs	**Average Hours/Wk:**	90 100%	**Melded Electric Rate ($/kWh):** $ 0.0626
Primary HVAC:	Gas Fired Hot Water w/Chiller	**No. of People**	930	**Melded Gas Rate ($/therm):** $ 1.2057
Building Square Footage:	70000	**Average Hours/Wk:**		**Other Fuel Rate ($/MMBtu):** $ -
		No. of People		**List Other Fuel:** N/A

Renewable Systems: NA

Value from Renewables ($/yr): $ -

Year:	2009 Jan	2009 Feb	2009 Mar	2009 Apr	2009 May	2009 Jun	2009 Jul	2009 Aug	2009 Sep	2009 Oct	2009 Nov	2009 Dec	Total
ENERGY													
Electricity (kWh)	57124.2	46918.2	54151.8	59571.6	55371.6	68588.4	63772.8	66212.4	54160.8	51172.2	50549.4	55333.2	682926.6
Electricity ($)	$ 3,425	$ 2,883	$ 3,388	$ 3,744	$ 3,531	$ 4,271	$ 3,962	$ 4,249	$ 3,425	$ 3,321	$ 3,195	$ 3,371	$ 42,766
Gas (therms)	2223.75	5115.08	12085.46	8378.3	5320.25	5320.25	4259.99	2232.81	2815.84	4267	6598.88	7094.44	65712.05
Gas ($)	$ 2,864	$ 6,536	$ 15,367	$ 10,707	$ 6,756	$ 6,756	$ 5,355	$ 2,822	$ 3,550	$ 4,526	6742.81	7246.77	$ 79,230
Other: (units)	0	0	0	0	0	0	0	0	0	0	0	0	0
Other: ($)	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Chilled Water (Btu)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water (Btu)	0	0	0	0	0	0	0	0	0	0	0	0	0
Steam (Btu)	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic HW (Btu)	0	0	0	0	0	0	0	0	0	0	0	0	0
RENEWABLES													
Solar Thermal (Btu)	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrical (kWh)	0	0	0	0	0	0	0	0	0	0	0	0	0
WATER													
Interior water (gals)	17205.2	35906.5	8228.57	13464.94	23189.61	18701.3	17205.2	14212.99	5236.36	20945.46	26181.82	20945.46	221423.41
Interior water/sewer ($)	$ 97	$ 150	$ 193	$ 274	$ 426	$ 356	$ 333	$ 286	$ 147	$ 391	$ 472	$ 391	$ 3,514
Domestic HW (gals)	0	0	0	0	0	0	0	0	0	0	0	0	0
Water captured (in)(gals)	0	0	0	0	0	0	0	0	0	0	0	0	0
Reclaimed water (in)(gals)	0	0	0	0	0	0	0	0	0	0	0	0	0
Reclaimed water (in)($)	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Irrigation (gals)	0	5236.36	5236.36	2992.21	53859.74	142877.93	117444.16	323158.46	118940.27	122680.53	748.05	0	893174.07
Irrigation ($)	$ 39	$ 47	$ 71	$ 71	$ 60	$ 292	$ 698	$ 582	$ 1,520	$ 589	$ 606	$ 50	$ 4,624
Water captured (out)(gals)	0	0	0	0	0	0	0	0	0	0	0	0	0
Reclaimed water(out)(gals)	0	0	0	0	0	0	0	0	0	0	0	0	0
Reclaimed water (out)($)	0	0	0	0	0	0	0	0	0	0	0	0	$ -

Water Usage/Person	238	Btu/SF/Year (EUI)	127,172	Energy $/SF/Year	$ 1.74
Water Savings (in)* %		Energy Savings* %		Energy Cost Savings/Year	0

Total Cost/SF/Year	$ 1.86
Total Cost Savings	0

*To find % interior water and energy savings go to www.ga.wa.gov/eas/green, then select your building from the list.

Explanations

Building Name:	Name of the building
Institution Name:	Prison name, college name, institution site name, etc.
Location:	Nearest city or town
University/Agency:	Name of University or Agency; ie. UW, CWU, DSHS, DOC, etc.
Submitted By:	Person completing this form
Phone:	Phone number for the person completing this form
Email:	Email address of the person completing this form
Building Use:	Describe the major uses of the building; ie. Classrooms, Offices and Science Labs; Gym, Classroom and Lockers; Medium Security Housing; etc.
Primary HAVC:	Describe the primary HVAC system serving most or all of the building.
Building SF:	Square footage of conditioned space. Covered parking would not be included.
Renewable Systems:	Describe the renewable energy systems installed on and in the building (ie. Solar photovoltaic panels, solar hot water panels, wind turbines, etc.)
Hours/Wk Use:	Average normal hours of use; ie. 50 hours/week, 24/7 = 168 hours/week, etc.
No. of People	Average number of people occupying the building during the occupied hours. Two different periods are provided in case of break periods, such as with universities.
Value from Renewables	Calculated energy cost savings based on sales of electricity, electricity offset, and/or thermal energy generated. Use energy cost per unit of energy to calculate savings.
Melded Elec. Rate ($/kWh):	The melded rate is calculated by taking the total electric bill divided by the total kWhs consumed. It would include the demand charge and any base charges.
Melded Gas Rate ($/therm):	The melded rate is calculated by taking the total gas bill divided by the total therms consumed. It would include the demand charge and any base charges.
Other Fuel Rate ($/MMBtu):	For central plants that use a fuel besides natural gas, calculate the cost per MMBtu.

ENERGY	Not all energy units below will be used in any one building. Only fill in the fuels that pertain to the facility.
Electricity (kWh)	Electricity usage in the building by month from the bill or submeter
Electricity ($)	Electricity cost from the bill or multiply the usage times the average cost per kWh taken from the overall campus bill
Gas (therms)	Gas usage in the building by month from the bill or submeter
Gas ($)	Gas cost from the bill or multiply the usage times the average cost per therm taken from the overall campus bill
Other: (units)	Other usage such as propane, oil, wood, coal, etc. Provide the units; ie, gallons, tons, etc.
Other: ($)	Monthly cost of the "other" fuel
Chilled Water (Btu)	Monthly Btus of chilled water used in the facility when served by a central plant. Leave blank if the chiller is included in the electric units above.
Hot Water (Btu)	Monthly Btus of hot water used in the facility when served by a central plant. Leave blank if the hot water is included in the energy units above (gas, "other" or electric).
Steam (Btu)	Monthly Btus of steam used in the facility when served by a central plant. Leave blank if the steam is included in the energy units above (gas, "other" or electric).
Domestic HW (Btu)	The domestic hot water use only if provided by a central plant or from another building.
RENEWABLES	Renewable energy projects generating heat or electricity to the building. Electrical energy used may be reduced by the electricity generating renewable.
Solar Thermal (Btu)	Monthly Btus generated by the solar hot water heater and used in the facility.
Electrical (kWh)	Monthly kWhs generated by the photovoltaic panels, wind turbines or other renewable energy generating units
WATER	Collect measurements of all the different water resources being used or captured.
Interior water (gals)	Water used in the building for toilets, urinals, sinks, showers, etc.
Interior water/sewer ($)	Costs for water and sewer.
Domestic HW (gals)	Only provide this if domestic hot water is provided by a central plant or other outside the building.
Water captured (in)(gals)	Gallons of rain water, gray water or site water captured and used in the building for flushing toilets and urinals.
Reclaimed water (in)(gals)	Reclaimed water purchased from a city or sewer utility that is used **in** the building for flushing toilets and urinals.
Reclaimed water (in)($)	Cost of reclaimed water used in the building. Calculated based on water costs from provider.
Irrigation (gals)	Irrigation usage for the area defined by the LEED project area around the building. If this is not separated for the LEED project area, do not include this here.
Irrigation ($)	Cost of the water used for irrigation of the LEED project area.
Water captured (out)(gals)	Gallons of captured water used for irrigation. Rain water, gray water or other site water captured.
Reclaimed water(out)(gals)	Reclaimed water purchased from a city or sewer utility that is used for irrigation or other purposes outside the building.
Reclaimed water (out)($)	Cost of reclaimed water used outside the building (irrigation or other).

State LEED Project
Energy and Water Consumption and Savings Reporting Form

Date: 7/28/2010 Submit by email to: SustainableBA@GA.WA.GOV

Complete all yellow boxes. If Not Applicable mark "NA".
Print on legal size paper

Building Name:	East County Satellite Campus (CTC)	**Submitted By:**	Jim Green
Institution Name:	Clark College	**Phone:**	(360) 992-2408
Location:	Vancouver	**Email:**	jgreen@clark.edu
University/Agency:	Clark College		
Building Use:	Classroom, lab, office		
Primary HVAC:	condensing boiler and chillers		
Building Square Footage:	68,542		

		%/Year
Average Hours/Wk:	78	85
No. of People	893	
Average Hours/Wk:	54	15
No. of People	40	

Value from Renewables ($/yr):	$ -
Melded Electric Rate ($/kWh):	$ 0.0676
Melded Gas Rate ($/therm):	$ 1.3500
Other Fuel Rate ($/MMBtu):	$ -
List Other Fuel:	NA

Renewable Systems: (2) 1 KW vertical axis wind turbine, 2.1 KW PV array

Year:	2010	2010	2010	2010	2010	2010	2009	2009	2009	2009	2009	2009	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
ENERGY													
Electricity (kWh)	51120	49680	52800	52080	45360	53280	74160	100560	64320	60240	50400	51360	705360
Electricity ($)	$ 2,591	$ 2,520	$ 2,675	$ 2,347	$ 2,050	$ 2,399	$ 3,319	$ 4,485	$ 3,245	$ 3,043	$ 2,554	$ 2,602	$ 33,830
Gas (therms)	1517	1282	1347	990	712	464	NA	843	796	1327	2322	2584	14184
Gas ($)	$ 1,735	$ 1,469	$ 1,542	$ 1,138	$ 822	$ 542	NA	$ 1,267	$ 1,198	$ 1,760	$ 2,584	$ 2,943	$ 17,000
Other: (units)	0	0	0	0	0	0	0	0	0	0	0	0	0
Other: ($)	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Chilled Water (Btu)	0	0	0	0	0	0	0	0	0	0	0	0	0
Hot Water (Btu)	0	0	0	0	0	0	0	0	0	0	0	0	0
Steam (Btu)	0	0	0	0	0	0	0	0	0	0	0	0	0
Domestic HW (Btu)	0	0	0	0	0	0	0	0	0	0	0	0	0
RENEWABLES													
Solar Thermal (Btu)													0
Electrical (kWh)													0
WATER													
Interior water (gals)	NA	34408	NA	47124	NA	41140	NA	519112	NA	16456	NA	24684	682924
Interior water/sewer ($)	NA	$ 365	NA	$ 403	NA	$ 414	NA	$ 3,878	NA	$ 233	NA	$ 293	$ 5,586
Domestic HW (gals)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Water captured (in)(gals)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Reclaimed water (in)(gals)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Reclaimed water (in)($)	0	0	0	0	0	0	0	0	0	0	0	0	$ -
Irrigation (gals)	NA	0	NA	148852	NA	356048	NA	417384	NA	952204	NA	219164	2093652
Irrigation ($)	NA	$ -	NA	$ 253	NA	$ 605	NA	$ 709	NA	$ 1,617	NA	$ 372	$ 3,555
Water captured (out)(gals)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Reclaimed water(out)(gals)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Reclaimed water (out)($)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	$ -

Water Usage/Person	609	Btu/SF/Year (EUI)	55,817	Energy $/SF/Year	$ 0.74
Water Savings (in)* %		Energy Savings* %		Energy Cost Savings/Year	0

Total Cost/SF/Year	$ 0.87
Total Cost Savings	0

*To find % interior water and energy savings go to www.ga.wa.gov/eas/green, then select your building from the list.

Explanations

Building Name:	Name of the building
Institution Name:	Prison name, college name, institution site name, etc.
Location:	Nearest city or town
University/Agency:	Name of University or Agency; ie. UW, CWU, DSHS, DOC, etc.
Submitted By:	Person completing this form
Phone:	Phone number for the person completing this form
Email:	Email address of the person completing this form
Building Use:	Describe the major uses of the building; ie. Classrooms, Offices and Science Labs; Gym, Classroom and Lockers; Medium Security Housing; etc.
Primary HAVC:	Describe the primary HVAC system serving most or all of the building.
Building SF:	Square footage of conditioned space. Covered parking would not be included.
Renewable Systems:	Describe the renewable energy systems installed on and in the building (ie. Solar photovoltaic panels, solar hot water panels, wind turbines, etc.)
Hours/Wk Use:	Average normal hours of use; ie. 50 hours/week, 24/7 = 168 hours/week, etc.
No. of People	Average number of people occupying the building during the occupied hours. Two different periods are provided in case of break periods, such as with universities.
Value from Renewables	Calculated energy cost savings based on sales of electricity, electricity offset, and/or thermal energy generated. Use energy cost per unit of energy to calculate savings.
Melded Elec. Rate ($/kWh):	The melded rate is calculated by taking the total electric bill divided by the total kWhs consumed. It would include the demand charge and any base charges.
Melded Gas Rate ($/therm):	The melded rate is calculated by taking the total gas bill divided by the total therms consumed. It would include the demand charge and any base charges.
Other Fuel Rate ($/MMBtu):	For central plants that use a fuel besides natural gas, calculate the cost per MMBtu.

ENERGY	Not all energy units below will be used in any one building. Only fill in the fuels that pertain to the facility.
Electricity (kWh)	Electricity usage in the building by month from the bill or submeter
Electricity ($)	Electricity cost from the bill or multiply the usage times the average cost per kWh taken from the overall campus bill
Gas (therms)	Gas usage in the building by month from the bill or submeter
Gas ($)	Gas cost from the bill or multiply the usage times the average cost per therm taken from the overall campus bill
Other: (units)	Other usage such as propane, oil, wood, coal, etc. Provide the units; ie, gallons, tons, etc.
Other: ($)	Monthly cost of the "other" fuel
Chilled Water (Btu)	Monthly Btus of chilled water used in the facility when served by a central plant. Leave blank if the chiller is included in the electric units above.
Hot Water (Btu)	Monthly Btus of hot water used in the facility when served by a central plant. Leave blank if the hot water is included in the energy units above (gas, "other" or electric).
Steam (Btu)	Monthly Btus of steam used in the facility when served by a central plant. Leave blank if the steam is included in the energy units above (gas, "other" or electric).
Domestic HW (Btu)	The domestic hot water use only if provided by a central plant or from another building.
RENEWABLES	Renewable energy projects generating heat or electricity to the building. Electrical energy used may be reduced by the electricity generating renewable.
Solar Thermal (Btu)	Monthly Btus generated by the solar hot water heater and used in the facility.
Electrical (kWh)	Monthly kWhs generated by the photovoltaic panels, wind turbines or other renewable energy generating units
WATER	Collect measurements of all the different water resources being used or captured.
Interior water (gals)	Water used in the building for toilets, urinals, sinks, showers, etc.
Interior water/sewer ($)	Costs for water and sewer.
Domestic HW (gals)	Only provide this if domestic hot water is provided by a central plant or other outside the building.
Water captured (in)(gals)	Gallons of rain water, gray water or site water captured and used in the building for flushing toilets and urinals.
Reclaimed water (in)(gals)	Reclaimed water purchased from a city or sewer utility that is used **in** the building for flushing toilets and urinals.
Reclaimed water (in)($)	Cost of reclaimed water used in the building. Calculated based on water costs from provider.
Irrigation (gals)	Irrigation usage for the area defined by the LEED project area around the building. If this is not separated for the LEED project area, do not include this here.
Irrigation ($)	Cost of the water used for irrigation of the LEED project area.
Water captured (out)(gals)	Gallons of captured water used for irrigation. Rain water, gray water or other site water captured.
Reclaimed water(out)(gals)	Reclaimed water purchased from a city or sewer utility that is used for irrigation or other purposes outside the building.
Reclaimed water (out)($)	Cost of reclaimed water used outside the building (irrigation or other).

State LEED Project
Energy and Water Consumption and Savings Reporting Form

DRAFT

Date: 8/9/2010 Submit by email to: SustainableBA@GA.WA.GOV

Complete all yellow boxes. If Not Applicable mark "NA".
Print on legal size paper

Building Name:	Graywolf Hall	**Submitted By:**	Molly Beeman
Institution Name:	Everett Community College	**Phone:**	425-388-9070
Location:	Everett Washington	**Email:**	mbeeman@everettcc.edu
University/Agency:	EVCC		
Building Use:	Classroom		
Primary HVAC:	Hydronic Loop w/ DX on Roof		
Building Square Footage:	77000		

		%/Year
Average Hours/Wk:	70	100
No. of People	250	
Average Hours/Wk:		
No. of People		

Value from Renewables ($/yr):	$ -
Melded Electric Rate ($/kWh):	
Melded Gas Rate ($/therm):	
Other Fuel Rate ($/MMBtu):	
List Other Fuel:	

Renewable Systems:

Year:	2010	2010	2010	2010	2010	2010		2009	2009	2009	2009	2009	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
ENERGY													
Electricity (kWh)	283200	228360	256461	234212	255528	131840			161801	246360	240745	237855	2276362
Electricity ($)	$ 18,662	$ 17,758	$ 19,590	$ 17,509	$ 17,836	$ 9,238			$ 12,200	$ 18,790	$ 18,701	$ 18,590	$ 168,874
Gas (therms)	1313	2052	2375	1463	1365	1086			728	1698	2561	5012	19653
Gas ($)	$ 1,378	$ 2,087	$ 2,327	$ 1,515	$ 1,427	$ 1,160			$ 916	$ 1,756	$ 2,678	$ 5,121	$ 20,365
Other: (units)													0
Other: ($)													$ -
Chilled Water (Btu)													0
Hot Water (Btu)													0
Steam (Btu)													0
Domestic HW (Btu)													0
RENEWABLES													
Solar Thermal (Btu)													0
Electrical (kWh)													0
WATER													
Interior water (gals)													0
Interior water/sewer ($)													$ -
Domestic HW (gals)													0
Water captured (in)(gals)													0
Reclaimed water (in)(gals)													0
Reclaimed water (in)($)													$ -
Irrigation (gals)													0
Irrigation ($)													$ -
Water captured (out)(gals)													0
Reclaimed water(out)(gals)													0
Reclaimed water (out)($)													$ -

Water Usage/Person	0	Btu/SF/Year (EUI)	126,452	Energy $/SF/Year	$ 2.46
Water Savings (in)* %		Energy Savings* %		Energy Cost Savings/Year	0

Total Cost/SF/Year	$ 2.46
Total Cost Savings	0

*To find % interior water and energy savings go to www.ga.wa.gov/eas/green, then select your building from the list.

Explanations

Building Name:	Name of the building
Institution Name:	Prison name, college name, institution site name, etc.
Location:	Nearest city or town
University/Agency:	Name of University or Agency; ie. UW, CWU, DSHS, DOC, etc.
Submitted By:	Person completing this form
Phone:	Phone number for the person completing this form
Email:	Email address of the person completing this form
Building Use:	Describe the major uses of the building; ie. Classrooms, Offices and Science Labs; Gym, Classroom and Lockers; Medium Security Housing; etc.
Primary HAVC:	Describe the primary HVAC system serving most or all of the building.
Building SF:	Square footage of conditioned space. Covered parking would not be included.
Renewable Systems:	Describe the renewable energy systems installed on and in the building (ie. Solar photovoltaic panels, solar hot water panels, wind turbines, etc.)
Hours/Wk Use:	Average normal hours of use; ie. 50 hours/week, 24/7 = 168 hours/week, etc.
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Other Fuel Rate ($/MMBtu):	For central plants that use a fuel besides natural gas, calculate the cost per MMBtu.

ENERGY	Not all energy units below will be used in any one building. Only fill in the fuels that pertain to the facility.
Electricity (kWh)	Electricity usage in the building by month from the bill or submeter
Electricity ($)	Electricity cost from the bill or multiply the usage times the average cost per kWh taken from the overall campus bill
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Gas ($)	Gas cost from the bill or multiply the usage times the average cost per therm taken from the overall campus bill
Other: (units)	Other usage such as propane, oil, wood, coal, etc. Provide the units; ie, gallons, tons, etc.
Other: ($)	Monthly cost of the "other" fuel
Chilled Water (Btu)	Monthly Btus of chilled water used in the facility when served by a central plant. Leave blank if the chiller is included in the electric units above.
Hot Water (Btu)	Monthly Btus of hot water used in the facility when served by a central plant. Leave blank if the hot water is included in the energy units above (gas, "other" or electric).
Steam (Btu)	Monthly Btus of steam used in the facility when served by a central plant. Leave blank if the steam is included in the energy units above (gas, "other" or electric).
Domestic HW (Btu)	The domestic hot water use only if provided by a central plant or from another building.
RENEWABLES	Renewable energy projects generating heat or electricity to the building. Electrical energy used may be reduced by the electricity generating renewable.
Solar Thermal (Btu)	Monthly Btus generated by the solar hot water heater and used in the facility.
Electrical (kWh)	Monthly kWhs generated by the photovoltaic panels, wind turbines or other renewable energy generating units
WATER	Collect measurements of all the different water resources being used or captured.
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Reclaimed water (in)($)	Cost of reclaimed water used in the building. Calculated based on water costs from provider.
Irrigation (gals)	Irrigation usage for the area defined by the LEED project area around the building. If this is not separated for the LEED project area, do not include this here.
Irrigation ($)	Cost of the water used for irrigation of the LEED project area.
Water captured (out)(gals)	Gallons of captured water used for irrigation. Rain water, gray water or other site water captured.
Reclaimed water(out)(gals)	Reclaimed water purchased from a city or sewer utility that is used for irrigation or other purposes outside the building.
Reclaimed water (out)($)	Cost of reclaimed water used outside the building (irrigation or other).

State LEED Project **DRAFT** **Date:**

Print on 8.5"x14" Paper

Energy and Water Consumption and Savings Reporting Form

Complete all yellow boxes. If not applicable mark "NA".

Building Name:	Jones Playhouse Theater	**Submitted By:**	Guarrin Sakagawa		
Institution Name:	University of Washington	**Phone:**	206-543-4208		
Location:	Seattle, WA	**Email:**	sakagawa@u.washington.edu		
University/Agency:	University of Washington			**Income from Renewables:**	
Building Use:	Theater for performances, some classes	**Hours/Wk Use:**	20	**Melded Electric Rate ($/kWh):**	
Primary HVAC:	Return Air AHUs with VFDs, NG Boiler and AC Chiller	**No. of People***	100	**Melded Gas Rate ($/therm):**	
Building Square Footage:	10905			**Other Fuel Rate ($/MMBtu):**	
Renewable Systems:	None				

Year:	2009												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
ENERGY													
Electricity (kWh)	10,640	11,960	10,560	9,040	10,160	9,080	8,560	8,800	9,840	14,360	14,120	22,134	139,254
Electricity ($)	$ 586	$ 671	$ 594	$ 508	$ 569	$ 508	$ 479	$ 493	$ 551	$ 804	$ 791	$ 1,240	$ 7,794
Gas (therms)	837.1	638	660.3	440	155	43.2	30.4	64.2	130.9	352	602	646.9	4,600.0
Gas ($)	$ 1,101	$ 845	$ 794	$ 594	$ 230	$ 86	$ 70	$ 120	$ 189	$ 391	$ 646	$ 692	$ 5,758
Other: (units)													0
Other: ($)													$ -
Chilled Water* (Btu)													0
Hot Water** (Btu)													0
Steam** (Btu)													0
Domestic HW (Btu)													0
RENEWABLES													
Solar Thermal (Btu)													0
Electrical (kWh)													0
WATER													
Interior water (gals)	748		6732		748		748		1496		2992		13464
Interior water/sewer ($)	$ 12		$ 112		$ 12		$ 12		$ 25		$ 50		$ 223
Domestic HW (gals)													0
Water captured (in)(gals)													0
Reclaimed water (in)(gals)													0
Reclaimed water (in)($)													$ -
Irrigation (gals)													0
Irrigation ($)													$ -
Water captured (out)(gals)													0
Reclaimed water(out)(gals)													0
Reclaimed water (out)($)													$ -

Water Usage/Person	134.64	Btu/SF/Year (EUI)	85,766	Energy $/SF/Year	$ 1.24	Total Cost/SF/Year $ 0.00

Submit by email to: SustainableBA.GA.WA.GOV

Explanations

Building Name: Name of the building
Institution Name: Prison name, college name, institution site name, etc.
Location: Nearest city or town
University/Agency: Name of University or Agency; ie. UW, CWU, DSHS, DOC, etc.

Submitted By: Person completing this form
Phone: Phone number for the person completing this form
Email: Email address of the person completing this form

Building Use: Describe the major uses of the building; ie. Classrooms, Offices and Science Labs; Gym, Classroom and Lockers; Medium Security Housing; etc.
Primary HAVC: Describe the primary HVAC system serving most or all of the building.
Building SF: Square footage of conditioned space. Covered parking would not be included.
Renewable Systems: Describe the renewable energy systems installed on and in the building (ie. Solar photovoltaic panels, solar hot water panels, wind turbines, etc.)
Hours/Wk Use: Average normal hours of use; ie. 50 hours/week, 24/7 = 168 hours/week,
No. of People* Average number of people occupying the building during the occupied hours

Melded Elec. Rate ($/kWh): The melded rate is calculated by taking the total electric bill divided by the total kWhs consumed. It would include the demand charge and any base charges.
Melded Gas Rate ($/therm): The melded rate is calculated by taking the total gas bill divided by the total therms consumed. It would include the demand charge and any base charges.
Other Fuel Rate ($/MMBtu): For central plants that use a fuel besides natural gas, calculate the cost per MMBtu.

ENERGY	Not all energy units below will be used in any one building. Only fill in the fuels that pertain to the facility.
Electricity (kWh)	Electricity usage in the building by month from the bill or submeter
Electricity ($)	Electricity cost from the bill or multiply the usage times the average cost per kWh taken from the overall campus bill
Gas (therms)	Gas usage in the building by month from the bill or submeter
Gas ($)	Gas cost from the bill or multiply the usage times the average cost per therm taken from the overall campus bill
Other: (units)	Other usage such as propane, oil, wood, coal, etc. Provide the units; ie, gallons, tons, etc.
Other: ($)	Monthly cost of the "other" fuel
Chilled Water* (Btu)	Monthly Btus of chilled water used in the facility when served by a central plant. Leave blank if the chiller is included in the electric units above.
Hot Water** (Btu)	Monthly Btus of hot water used in the facility when served by a central plant. Leave blank if the hot water is included in the energy units above (gas, "other" or electric).
Steam** (Btu)	Monthly Btus of steam used in the facility when served by a central plant. Leave blank if the steam is included in the energy units above (gas, "other" or electric).
Domestic HW (Btu)	The domestic hot water use only if provided by a central plant or from another building.
RENEWABLES	Renewable energy projects generating heat or electricity to the building. Electrical energy used may be reduced by the electricity generating renewable.
Solar Thermal (Btu)	Monthly Btus generated by the solar hot water heater and used in the facility.
Electrical (kWh)	Monthly kWhs generated by the photovoltaic panels, wind turbines or other renewable energy generating units
WATER	Collect measurements of all the different water resources being used or captured.
Interior water (gals)	Water used in the building for toilets, urinals, sinks, showers, etc.
Interior water/sewer ($)	Costs for water and sewer.
Domestic HW (gals)	Only provide this if domestic hot water is provided by a central plant or other outside the building.
Water captured (in)(gals)	Gallons of rain water or ground water captured and used in the building for flushing toilets and urinals.
Reclaimed water (in)(gals)	Reclaimed water purchased from a city or sewer utility that is used **in** the building for flushing toilets and urinals.
Reclaimed water (in)($)	Cost of reclaimed water used in the building.
Irrigation (gals)	Irrigation usage for the area around the building. If this is not separated for the LEED project area, do not include this here.
Irrigation ($)	Cost of the water used for irrigation of the LEED project area.
Water captured (out)(gals)	Gallons of rain water or ground water captured and used for irrigation
Reclaimed water(out)(gals)	Reclaimed water purchased from a city or sewer utility that is used for irrigation or other purposes outside the building.
Reclaimed water (out)($)	Cost of reclaimed water used outside the building (irrigation or other).

State LEED Project **DRAFT** **Date:** Submit by email to: SustainableBA@GA.WA.GOV

Energy and Water Consumption and Savings Reporting Form

Complete all yellow boxes. If Not Applicable mark "NA".
Print on legal size paper

Building Name:	Kennedy Fitness Center	**Submitted By:**	Robert Tracey		
Institution Name:	Washington State School for the Blind	**Phone:**	360-696-6321		
Location:	Vancouver, WA	**Email:**	rob.tracey@wssb.wa.gov		
University/Agency:	Washington State School for the Blind			**Value from Renewables ($/yr):**	
			%/Year		
Building Use:	Gym, Pool, Fitness, Classrooms	**Average Hours/Wk:**	74	**Melded Electric Rate ($/kWh):**	$ 0.0416
Primary HVAC:	water source heat pmp, hot water closed loop boiler	**No. of People**	755	**Melded Gas Rate ($/therm):**	$ 1.0687
Building Square Footage:	29,000	**Average Hours/Wk:**		**Other Fuel Rate ($/MMBtu):**	
		No. of People		**List Other Fuel:**	

Renewable Systems:

Year:													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
ENERGY													
Electricity (kWh)	3880	16320	32160	17640	20800	20400	13680	11520	13760	26280	27040	30120	233600
Electricity ($)	$ 161	$ 679	$ 1,338	$ 734	$ 865	$ 849	$ 569	$ 479	$ 572	$ 1,093	$ 1,125	$ 1,253	$ 9,717
Gas (therms)	11.7	NA	5013	2179	1824	1025	652	83	232	1018	1884	2748	16669.7
Gas ($)	$ 13	NA	$ 5,357	$ 2,329	$ 1,949	$ 1,095	$ 668	$ 89	$ 248	$ 1,088	$ 2,013	$ 2,937	$ 17,785
Other: (units)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Other: ($)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	$ -
Chilled Water (Btu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Hot Water (Btu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Steam (Btu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Domestic HW (Btu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
RENEWABLES													
Solar Thermal (Btu)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Electrical (kWh)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
WATER													
Interior water (gals)	47006	47006	47006	47006	47006	47006	47006	47006	47006	47006	47006	47006	564072
Interior water/sewer ($)	$ 550	$ 550	$ 550	$ 550	$ 550	$ 550	$ 550	$ 550	$ 550	$ 550	$ 550	$ 550	$ 6,600
Domestic HW (gals)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Water captured (in)(gals)	163800	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	163800
Reclaimed water (in)(gals)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Reclaimed water (in)($)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	$ -
Irrigation (gals)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Irrigation ($)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	$ -
Water captured (out)(gals)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Reclaimed water(out)(gals)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Reclaimed water (out)($)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	$ -

Water Usage/Person	#DIV/0!	Btu/SF/Year (EUI)	84,974	Energy $/SF/Year	$ 0.95	Total Cost/SF/Year	$ 1.18
Water Savings (in)* %		Energy Savings* %		Energy Cost Savings/Year	0	Total Cost Savings	0

*To find % interior water and energy savings go to www.ga.wa.gov/eas/green, then select your building from the list.

Explanations

Building Name: Name of the building
Institution Name: Prison name, college name, institution site name, etc.
Location: Nearest city or town
University/Agency: Name of University or Agency; ie. UW, CWU, DSHS, DOC, etc.

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Reclaimed water (out)($)	Cost of reclaimed water used outside the building (irrigation or other).

Appendices:

7. LEED Project Data (Recycled Content, Recycling Construction Waste, Daylight, Low VOC, Regional Materials)

State LEED Building - Costs and Benefits of LEED

Building Name	Agency Name
Undergraduate Education Center	Everett Community College
Square Footage	86,000
Number of Occupants	
Total Project Cost (construction and consultants)	20999480
Added Construction & Consultant Costs Due to LEED	
Percent Added Costs Due to LEED	0%
Utility and Other Incentives/Grants	

Payback (Yrs)***
$ -

Total Savings Over Baseline (energy & water)
$ 20,489.36

Energy Effciency and Renewable Energy Production	Proposed Building				Baseline Building	
	Units	$	% Savings	$ Savings	Units	$
Electricity (kWh)	588,684	$ 46,501.00	14.6%	$ 7,919.00	697,092	$ 54,420.00
Gas (Therms)	8,417	$ 9,785.00	55.3%	$ 12,093.00	18,966	$ 21,878.00
Generated Electricity (kWh)	-	$ -	0	$ -		
Renewable Heat (Btu)	-	$ -	-	$ -		
Total Btus, Dollars & Percents	2,850,878.5	$ 56,286.00	26.2%	$ 20,012.00	4,275,775.0	$ 76,298.00

Water Efficiency	Gallons/Yr	$	% Savings	$ Savings	Gallons/Yr	$
Water Use Reduction (water sewer savings*)	275,018	$ 275.02	30.4%	$ 120.22	395,237	$ 395.24
Landscape Watering (water savings**)	79,547	$ 198.87	64.2%	$ 357.14	222,403	$ 556.01
Captured Water (Wastewater Technologies)	-		0%			
Total Water Saving	354,565	$ 473.89	50.2%	$ 477.36	617,640	$ 951.24

Stormwater Management	Points 0-2
Stormwater Control Quality and Quantity	0

Alternative Transportation Sources & Walkability	Points
Density & Community Connectivity	0
Public Transportation	1
Bike Racks & Showers	1
Total Points	2

Construction Waste Recycling	Tons	%
Construction Waste Recycled	963.54	97.1

Use of Recycled Content Materials	$	%
Recycled Content Materials	$ 873,977.14	18.3

Use of Regional Materials	$	%
Regional Materials	$ 1,262,504.20	26.4

Protect Forests by Supporting Sustainable Forestry	Points
Ceterified Wood	0

Good indoor Air Quality	Points
Const. IAQ Management Plan	0
Low-Emitting Materials	4
Indoor Chemical & Pollutant Source Control	1
Total	5

Access to Natural Light	Points 0-2
Daylight & Views	1

* Default value used for water/sewer costs of $6/1000 gallons

**Default value used for irrigation water only $2.50/1000 gallons

*** Payback doesn't include many of the intangibles. These can result in greater savings than from energy and water alone. Increased productivity, reductions in sick leave, and worker retention can far outway utility savings. Also environmental benefits can be substantial in moving Washington to its goals. Government must lead by example.

State LEED Building - Costs and Benefits of LEED

Building Name	Agency Name
Floyd and Delores Jones Playhouse	University of Washington
Square Footage	12,692
Number of Occupants	
Total Project Cost (construction and consultants)	9687248
Added Construction & Consultant Costs Due to LEED	-42723
Percent Added Costs Due to LEED	-0.4%
Utility and Other Incentives/Grants	

Payback (Yrs)***
$ (4.08)

Total Savings Over Baseline (energy & water)
$ 10,481.40

Energy Effciency and Renewable Energy Production	Proposed Building				Baseline Building	
	Units	$	% Savings	$ Savings	Units	$
Electricity (kWh)	133,880	$ 5,495.00	-30.2%	$ (1,275.00)	125,850	$ 4,220.00
Gas (Therms)	611	$ 6,688.00	63.7%	$ 11,746.00	1,685	$ 18,434.00
Generated Electricity (kWh)	-	$ -	0	$ -		
Renewable Heat (Btu)	-	$ -	-	$ -		
Total Btus, Dollars & Percents	518,050.4	$ 12,183.00	46.2%	$ 10,471.00	597,996.1	$ 22,654.00

Water Efficiency	Gallons/Yr	$	% Savings	$ Savings	Gallons/Yr	$
Water Use Reduction (water sewer savings*)	13,520	$ 13.52	43.5%	$ 10.40	23,920	$ 23.92
Landscape Watering (water savings**)	-	$ -	#DIV/0!	$ -	-	$ -
Captured Water (Wastewater Technologies)	-		0%			
Total Water Saving	13,520	$ 13.52	43.5%	$ 10.40	23,920	$ 23.92

Stormwater Management	Points 0-2
Stormwater Control Quality and Quantity	0

Alternative Transportation Sources & Walkability	Points
Density & Community Connectivity	1
Public Transportation	1
Bike Racks & Showers	1
Total Points	3

Construction Waste Recycling	Tons	%
Construction Waste Recycled	129.58	95.8

Use of Recycled Content Materials	$	%
Recycled Content Materials	$ 157,647.21	46.2

Use of Regional Materials	$	%
Regional Materials	$ -	0.0

Protect Forests by Supporting Sustainable Forestry	Points
Ceterified Wood	0

Good indoor Air Quality	Points
Const. IAQ Management Plan	2
Low-Emitting Materials	4
Indoor Chemical & Pollutant Source Control	1
Total	7

Access to Natural Light	Points 0-2
Daylight & Views	0

* Default value used for water/sewer costs of $6/1000 gallons

**Default value used for irrigation water only $2.50/1000 gallons

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State LEED Building - Costs and Benefits of LEED

Building Name	Agency Name
Science Allied Health	Skagit Valley College
Square Footage	65,900
Number of Occupants	
Total Project Cost (construction and consultants)	25140200
Added Construction & Consultant Costs Due to LEED	477441
Percent Added Costs Due to LEED	1.9%
Utility and Other Incentives/Grants	254570

Payback (Yrs)***
5.1

Total Savings Over Baseline (energy & water)
$ 43,496.13

Energy Effciency and Renewable Energy Production	Proposed Building				Baseline Building	
	Units	$	% Savings	$ Savings	Units	$
Electricity (kWh)	421,531	$ 34,978.00	40.9%	$ 24,256.00	661,634	$ 59,234.00
Gas (Therms)	22,936	$ 27,835.00	39.5%	$ 18,203.00	38,131	$ 46,038.00
Generated Electricity (kWh)	35,203.00	$ 2,978.00	9%	$ 2,978.00		
Renewable Heat (Btu)	-	$ -	0%	$ -		
Total Btus, Dollars & Percents	3,612,137.5	$ 62,813.00	40.3%	$ 42,459.00	6,071,256.8	$ 105,272.00

Water Efficiency	Gallons/Yr	$	% Savings	$ Savings	Gallons/Yr	$
Water Use Reduction (water sewer savings*)	119,185	$ 119.19	48.0%	$ 110.14	229,323	$ 229.32
Landscape Watering (water savings**)	172,352	$ 430.88	68.3%	$ 926.99	543,148	$ 1,357.87
Captured Water (Wastewater Technologies)	-		0%			
Total Water Saving	291,537	$ 550.07	65.3%	$ 1,037.13	772,471	$ 1,587.19

Stormwater Management	Points 0-2
Stormwater Control Quality and Quantity	0

Alternative Transportation Sources & Walkability	Points
Density & Community Connectivity	1
Public Transportation	1
Bike Racks & Showers	1
Total Points	3

Construction Waste Recycling	Tons	%
Construction Waste Recycled	749.1	97.1

Use of Recycled Content Materials	$	%
Recycled Content Materials	$ 1,039,281.83	23.8

Use of Regional Materials	$	%
Regional Materials	$ 1,090,424.13	25.0

Protect Forests by Supporting Sustainable Forestry	Points
Ceterified Wood	1

Good indoor Air Quality	Points
Const. IAQ Management Plan	2
Low-Emitting Materials	4
Indoor Chemical & Pollutant Source Control	0
Total	6

Access to Natural Light	Points 0-2
Daylight & Views	1

* Default value used for water/sewer costs of $6/1000 gallons

**Default value used for irrigation water only $2.50/1000 gallons

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State LEED Building - Costs and Benefits of LEED

Building Name	Agency Name
Natural Sciences Complex	South Puget Sound Comm. College
Square Footage	66,990
Number of Occupants	
Total Project Cost (construction and consultants)	18546500
Added Construction & Consultant Costs Due to LEED	
Percent Added Costs Due to LEED	0%
Utility and Other Incentives/Grants	

Payback (Yrs)***
$ -

Total Savings Over Baseline (energy & water)
$ 47,985.35

Energy Effciency and Renewable Energy Production	Proposed Building				Baseline Building	
	Units	$	% Savings	$ Savings	Units	$
Electricity (kWh)	1,255,912	$ 95,323.72	-15.1%	$ (12,484.95)	1,108,953	$ 82,838.77
Gas (Therms)	14,446	$ 15,601.68	79.5%	$ 60,424.58	72,850	$ 76,026.26
Generated Electricity (kWh)	-	$ -	0	$ -		
Renewable Heat (Btu)	-	$ -	-	$ -		
Total Btus, Dollars & Percents	5,731,027.7	$ 110,925.40	30.2%	$ 47,939.63	11,069,856.6	$ 158,865.03

Water Efficiency	Gallons/Yr	$	% Savings	$ Savings	Gallons/Yr	$
Water Use Reduction (water sewer savings*)	48,582	$ 48.58	48.5%	$ 45.72	94,303	$ 94.30
Landscape Watering (water savings**)	-	$ -	#DIV/0!	$ -	-	$ -
Captured Water (Wastewater Technologies)	-		0%			
Total Water Saving	48,582	$ 48.58	48.5%	$ 45.72	94,303	$ 94.30

Stormwater Management	Points 0-2
Stormwater Control Quality and Quantity	1

Alternative Transportation Sources & Walkability	Points
Density & Community Connectivity	0
Public Transportation	1
Bike Racks & Showers	1
Total Points	2

Construction Waste Recycling	Tons	%
Construction Waste Recycled	418.3	96.3

Use of Recycled Content Materials	$	%
Recycled Content Materials	$ 488,484.93	10.4

Use of Regional Materials	$	%
Regional Materials	$ 417,898.51	35.0

Protect Forests by Supporting Sustainable Forestry	Points
Ceterified Wood	0

Good indoor Air Quality	Points
Const. IAQ Management Plan	2
Low-Emitting Materials	4
Indoor Chemical & Pollutant Source Control	1
Total	7

Access to Natural Light	Points 0-2
Daylight & Views	1

* Default value used for water/sewer costs of $6/1000 gallons

**Default value used for irrigation water only $2.50/1000 gallons

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State LEED Building - Costs and Benefits of LEED

Building Name	Agency Name
Early Childhood Education Center	Tacoma Community College
Square Footage	12,962
Number of Occupants	
Total Project Cost (construction and consultants)	5661665
Added Construction & Consultant Costs Due to LEED	191321
Percent Added Costs Due to LEED	3%
Utility and Other Incentives/Grants	

Payback (Yrs)***
$ 64.91

Total Savings Over Baseline (energy & water)
$ 2,947.60

Energy Effciency and Renewable Energy Production	Proposed Building				Baseline Building	
	Units	$	% Savings	$ Savings	Units	$
Electricity (kWh)	112,253	$ 12,230.00	7.9%	$ 1,051.00	126,602	$ 13,281.00
Gas (Therms)	1,885	$ 2,398.00	35.2%	$ 1,304.00	2,999	$ 3,702.00
Generated Electricity (kWh)	-	$ -	0%	$ -		
Renewable Heat (Btu)	51,705.00	$ 3,470.00	9%	$ 0.62		
Total Btus, Dollars & Percents	571,567.8	$ 14,628.00	13.9%	$ 2,355.00	731,992.6	$ 16,983.00

Water Efficiency	Gallons/Yr	$	% Savings	$ Savings	Gallons/Yr	$
Water Use Reduction (water sewer savings*)	57,300	$ 57.30	71.0%	$ 140.35	197,652	$ 197.65
Landscape Watering (water savings**)	144,241	$ 360.60	55.6%	$ 452.25	325,142	$ 812.86
Captured Water (Wastewater Technologies)	-		0%			
Total Water Saving	201,541	$ 417.90	58.6%	$ 592.60	522,794	$ 1,010.51

Stormwater Management	Points 0-2
Stormwater Control Quality and Quantity	1

Alternative Transportation Sources & Walkability	Points
Density & Community Connectivity	1
Public Transportation	1
Bike Racks & Showers	0
Total Points	2

Construction Waste Recycling	Tons	%
Construction Waste Recycled	250	99.7

Use of Recycled Content Materials	$	%
Recycled Content Materials	$ 67,223.48	13.5

Use of Regional Materials	$	%
Regional Materials	$ 162,562.32	32.7

Protect Forests by Supporting Sustainable Forestry	Points
Ceterified Wood	0

Good indoor Air Quality	Points
Const. IAQ Management Plan	2
Low-Emitting Materials	4
Indoor Chemical & Pollutant Source Control	1
Total	7

Access to Natural Light	Points 0-2
Daylight & Views	2

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**Default value used for irrigation water only $2.50/1000 gallons

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State LEED Building - Costs and Benefits of LEED

Building Name	Agency Name
New Science Center	Centralia Comm. College
Square Footage	69,984
Number of Occupants	
Total Project Cost (construction and consultants)	24190252
Added Construction & Consultant Costs Due to LEED	358268
Percent Added Costs Due to LEED	1.5%
Utility and Other Incentives/Grants	

Payback (Yrs)***
$ 10.78

Total Savings Over Baseline (energy & water)
$ 33,239.95

Energy Effciency and Renewable Energy Production	Proposed Building				Baseline Building	
	Units	$	% Savings	$ Savings	Units	$
Electricity (kWh)	1,043,684	$ 52,389.00	22.2%	$ 14,950.00	1,301,900	$ 67,339.00
Gas (Therms)	19,249	$ 20,798.00	46.7%	$ 18,221.00	36,259	$ 39,019.00
Generated Electricity (kWh)	-	$ -	0	$ -		
Renewable Heat (Btu)	-	$ -	-	$ -		
Total Btus, Dollars & Percents	5,486,993.5	$ 73,187.00	31.2%	$ 33,171.00	8,069,284.7	$ 106,358.00

Water Efficiency	Gallons/Yr	$	% Savings	$ Savings	Gallons/Yr	$
Water Use Reduction (water sewer savings*)	92,469	$ 92.47	42.7%	$ 68.95	161,421	$ 161.42
Landscape Watering (water savings**)		$ -	#DIV/0!	$ -		$ -
Captured Water (Wastewater Technologies)	-		0%			
Total Water Saving	92,469	$ 92.47	42.7%	$ 68.95	161,421	$ 161.42

Stormwater Management	Points 0-2
Stormwater Control Quality and Quantity	2

Alternative Transportation Sources & Walkability	Points
Density & Community Connectivity	1
Public Transportation	1
Bike Racks & Showers	1
Total Points	3

Construction Waste Recycling	Tons	%
Construction Waste Recycled	311.74	96.5

Use of Recycled Content Materials	$	%
Recycled Content Materials	$ 1,589,364.36	29.7

Use of Regional Materials	$	%
Regional Materials	$ 2,932,638.20	54.8

Protect Forests by Supporting Sustainable Forestry	Points
Ceterified Wood	1

Good indoor Air Quality	Points
Const. IAQ Management Plan	2
Low-Emitting Materials	4
Indoor Chemical & Pollutant Source Control	0
Total	6

Access to Natural Light	Points 0-2
Daylight & Views	2

* Default value used for water/sewer costs of $6/1000 gallons

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State LEED Building - Costs and Benefits of LEED

Building Name	Agency Name
Youth Academy	Miltary
Square Footage	18,050
Number of Occupants	
Total Project Cost (construction and consultants)	4057873
Added Construction & Consultant Costs Due to LEED	92400
Percent Added Costs Due to LEED	2%
Utility and Other Incentives/Grants	

Payback (Yrs)***
$ 43.67

Total Savings Over Baseline (energy & water)
$ 2,115.90

Energy Effciency and Renewable Energy Production	Proposed Building				Baseline Building	
	Units	$	% Savings	$ Savings	Units	$
Electricity (kWh)	373	$ 6,120.00	14.8%	$ 1,060.00	470	$ 7,180.00
Gas (Therms)	143	$ 1,412.00	31.9%	$ 661.00	222	$ 2,073.00
Generated Electricity (kWh)		$ -	0	$ -		
Renewable Heat (Btu)	-	$ -	-	$ -		
Total Btus, Dollars & Percents	15,573.0	$ 7,532.00	18.6%	$ 1,721.00	23,804.1	$ 9,253.00

Water Efficiency	Gallons/Yr	$	% Savings	$ Savings	Gallons/Yr	$
Water Use Reduction (water sewer savings*)	951,187	$ 951.19	29.3%	$ 394.90	1,346,086	$ 1,346.09
Landscape Watering (water savings**)	-	$ -	#DIV/0!	$ -	-	$ -
Captured Water (Wastewater Technologies)	-		0%			
Total Water Saving	951,187	$ 951.19	29.3%	$ 394.90	1,346,086	$ 1,346.09

Stormwater Management	Points 0-2
Stormwater Control Quality and Quantity	0

Alternative Transportation Sources & Walkability	Points
Density & Community Connectivity	0
Public Transportation	0
Bike Racks & Showers	1
Total Points	1

Construction Waste Recycling	Tons	%
Construction Waste Recycled	71.21	95.0

Use of Recycled Content Materials	$	%
Recycled Content Materials	$ 35,280.29	4.6

Use of Regional Materials	$	%
Regional Materials	$ 290,757.84	51.7

Protect Forests by Supporting Sustainable Forestry	Points
Ceterified Wood	0

Good indoor Air Quality	Points
Const. IAQ Management Plan	2
Low-Emitting Materials	4
Indoor Chemical & Pollutant Source Control	1
Total	7

Access to Natural Light	Points 0-2
Daylight & Views	1

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State LEED Building - Costs and Benefits of LEED

Building Name	Agency Name
Coyote Ridge	Departement of Corrections
Square Footage	564
Number of Occupants	
Total Project Cost (construction and consultants)	189994680
Added Construction & Consultant Costs Due to LEED	
Percent Added Costs Due to LEED	0.0%
Utility and Other Incentives/Grants	

Payback (Yrs)***
$ -

Total Savings Over Baseline (energy & water)
$ 376,626.19

Energy Effciency and Renewable Energy Production	Proposed Building				Baseline Building	
	Units	$	% Savings	$ Savings	Units	$
Electricity (kWh)	9,110,282	$ 555,363.00	12.8%	$ 81,872.00	10,219,549	$ 637,235.00
Gas (Therms)	272,225	$ 285,651.00	42.2%	$ 208,639.00	469,960	$ 494,290.00
Generated Electricity (kWh)	105,525.00	$ 6,432.00	0.0115816	$ 6,432.00		
Renewable Heat (Btu)	6,580,000,000.00	$ 74,012.00	128.08	$ 78,960.00		
Total Btus, Dollars & Percents	51,375,735.6	$ 760,570.00	32.8%	$ 370,955.00	81,875,320.7	$ 1,131,525.00
Water Efficiency						
	Gallons/Yr	$	% Savings	$ Savings	Gallons/Yr	$
Water Use Reduction (water sewer savings*)	12,204,504	$ 12,204.50	31.7%	$ 5,671.19	17,875,692	$ 17,875.69
Landscape Watering (water savings**)	-	$ -	#DIV/0!	$ -	-	$ -
Captured Water (Wastewater Technologies)	-		0%			
Total Water Saving	12,204,504	$ 12,204.50	31.7%	$ 5,671.19	17,875,692	$ 17,875.69

Stormwater Management	Points 0-2
Stormwater Control Quality and Quantity	2

Alternative Transportation Sources & Walkability	Points
Density & Community Connectivity	0
Public Transportation	1
Bike Racks & Showers	1
Total Points	2

Construction Waste Recycling	Tons	%
Construction Waste Recycled	6206.38	96.2

Use of Recycled Content Materials	$	%
Recycled Content Materials	$ 6,033,971.92	33.1

Use of Regional Materials	$	%
Regional Materials	$ 8,901,376.00	47.1

Protect Forests by Supporting Sustainable Forestry	Points
Ceterified Wood	1

Good indoor Air Quality	Points
Const. IAQ Management Plan	2
Low-Emitting Materials	4
Indoor Chemical & Pollutant Source Control	1
Total	7

Access to Natural Light	Points 0-2
Daylight & Views	0

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State LEED Building - Costs and Benefits of LEED

Building Name	Agency Name
sn-'wey'-mn	Spokane Falls Comm. College
Square Footage	70,533
Number of Occupants	
Total Project Cost (construction and consultants)	15321972
Added Construction & Consultant Costs Due to LEED	80339
Percent Added Costs Due to LEED	0.5%
Utility and Other Incentives/Grants	

Payback (Yrs)***
$ 2.42

Total Savings Over Baseline (energy & water)
$ 33,166.95

Energy Effciency and Renewable Energy Production	Proposed Building				Baseline Building	
	Units	$	% Savings	$ Savings	Units	$
Electricity (kWh)	498,095	$ 40,168.00	37.8%	$ 24,456.00	836,536	$ 64,624.00
Gas (Therms)	17,991	$ 15,123.00	35.7%	$ 8,384.00	28,136	$ 23,507.00
Generated Electricity (kWh)	-	$ -	0	$ -		
Renewable Heat (Btu)	-	$ -	-	$ -		
Total Btus, Dollars & Percents	3,499,098.2	$ 55,291.00	37.3%	$ 32,840.00	5,668,697.4	$ 88,131.00
Water Efficiency						
	Gallons/Yr	$	% Savings	$ Savings	Gallons/Yr	$
Water Use Reduction (water sewer savings*)	480,675	$ 480.68	40.5%	$ 326.95	807,625	$ 807.63
Landscape Watering (water savings**)	-	$ -	#DIV/0!	$ -	-	$ -
Captured Water (Wastewater Technologies)	-		0%			
Total Water Saving	480,675	$ 480.68	40.5%	$ 326.95	807,625	$ 807.63

Stormwater Management	Points 0-2
Stormwater Control Quality and Quantity	1

Alternative Transportation Sources & Walkability	Points
Density & Community Connectivity	1
Public Transportation	1
Bike Racks & Showers	1
Total Points	3

Construction Waste Recycling	Tons	%
Construction Waste Recycled	1600.9	90.5

Use of Recycled Content Materials	$	%
Recycled Content Materials	$ 638,787.53	18.2

Use of Regional Materials	$	%
Regional Materials	$ 791,412.00	62.3

Protect Forests by Supporting Sustainable Forestry	Points
Ceterified Wood	1

Good indoor Air Quality	Points
Const. IAQ Management Plan	2
Low-Emitting Materials	4
Indoor Chemical & Pollutant Source Control	1
Total	7

Access to Natural Light	Points 0-2
Daylight & Views	2

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**Default value used for irrigation water only $2.50/1000 gallons

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State LEED Building - Costs and Benefits of LEED

Building Name	Agency Name
Vocational Education & Support Bldg.	WA School for the Deaf
Square Footage	
Number of Occupants	
Total Project Cost (construction and consultants)	
Added Construction & Consultant Costs Due to LEED	
Percent Added Costs Due to LEED	#DIV/0!
Utility and Other Incentives/Grants	

Payback (Yrs)***
$ -

Total Savings Over Baseline (energy & water)
$ 11,037.43

Energy Effciency and Renewable Energy Production	Proposed Building				Baseline Building	
	Units	$	% Savings	$ Savings	Units	$
Electricity (kWh)	303,941	$ 18,655.00	-4.6%	$ (828.00)	289,703	$ 17,827.00
Gas (Therms)	4,388	$ 5,571.00	67.3%	$ 11,464.00	13,628	$ 17,035.00
Generated Electricity (kWh)	-	$ -	0	$ -		
Renewable Heat (Btu)	-	$ -	-	$ -		
Total Btus, Dollars & Percents	1,476,150.6	$ 24,226.00	30.5%	$ 10,636.00	2,351,556.3	$ 34,862.00

Water Efficiency						
	Gallons/Yr	$	% Savings	$ Savings	Gallons/Yr	$
Water Use Reduction (water sewer savings*)	57,316	$ 57.32	31.8%	$ 26.69	84,009	$ 84.01
Landscape Watering (water savings**)	71,295	$ 178.24	67.8%	$ 374.74	221,191	$ 552.98
Captured Water (Wastewater Technologies)	-		0%			
Total Water Saving	128,611	$ 235.55	63.0%	$ 401.43	305,200	$ 636.99

Stormwater Management	
	Points 0-2
Stormwater Control Quality and Quantity	1

Alternative Transportation Sources & Walkability	
	Points
Density & Community Connectivity	1
Public Transportation	1
Bike Racks & Showers	1
Total Points	3

Construction Waste Recycling		
	Tons	%
Construction Waste Recycled	2218.64	96.5

Use of Recycled Content Materials		
	$	%
Recycled Content Materials	$ 447,263.76	25.1

Use of Regional Materials		
	$	%
Regional Materials	$ 469,730.12	26.4

Protect Forests by Supporting Sustainable Forestry	
	Points
Ceterified Wood	1

Good indoor Air Quality	
	Points
Const. IAQ Management Plan	2
Low-Emitting Materials	4
Indoor Chemical & Pollutant Source Control	1
Total	7

Access to Natural Light	
	Points 0-2
Daylight & Views	1

* Default value used for water/sewer costs of $6/1000 gallons

**Default value used for irrigation water only $2.50/1000 gallons

*** Payback doesn't include many of the intangibles. These can result in greater savings than from energy and water alone. Increased productivity, reductions in sick leave, and worker retention can far outway utility savings. Also environmental benefits can be substantial in moving Washington to its goals. Government must lead by example.

Appendices:

8. LEED Project Cost Data

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Humanities and Student Services Building, Bremerton
Building Gross Square Footage:	85,012
Institution/University or Agency Name:	Olympic College
Submitted By (Name/Phone):	Yost Grube Hall Architecture, John Blumthal, (503) 221-0150
LEED Level Achieved:	Gold (not yet certified)

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 100,854.00
Commissioning Fees:	$ 80,240.00
ELCCA Preparation Fees:	$ 26,475.00
Overall Consultant Fees:	$ 2,643,011.00

* Use the Application for Payment

Overall Cost of LEED
$ 104,406.84

Overall Project Cost (Consultant + Construction)
$ 24,282,597.84

Cost of LEED Compared to Overall Costs (%)
0.4%

LEED Submittal Fees:	$ 3,552.84
Cost of LEED/Overall Consultant Fees (%):	4.0%

Building Construction Cost Per Square Foot
$ 241.04

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ -		
Site Work & Related Costs:	$ 1,144,912.00		
Facility Construction Costs:	$ 20,491,122.00		
Max. Allowable Construction Costs (MACC):	$ 21,636,034.00		
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ -		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ -
Cost of LEED/Overall Consultant Fees (%):	0.0%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

Describe	
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	New Science Center Centralia, Washington
Building Gross Square Footage:	69,984
Institution/University or Agency Name:	Centralia College
Submitted By (Name/Phone):	Andrew Rovelstad, Leavengood Architects 206-780-0786
LEED Level Achieved:	Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 63,188.00
Commissioning Fees:	$ 70,202.00
ELCCA Preparation Fees:	$ 23,740.00
Overall Consultant Fees:	$ 2,439,468.00

* Use the Application for Payment

Overall Cost of LEED
$ 358,268.00

Overall Project Cost (Consultant + Construction)
$ 24,190,252.00

Cost of LEED Compared to Overall Costs (%)
1.5%

LEED Submittal Fees:	$ 3,784.00
Cost of LEED/Overall Consultant Fees (%):	2.6%

Building Construction Cost Per Square Foot
$ 336.25

Construction Costs**	Costs		
Building Demolistion Cost:			
Site Work & Related Costs:	$ 448,340.00		
Facility Construction Costs:	$ 23,532,233.00		
Max. Allowable Construction Costs (MACC):	$ 21,747,000.00		List LEED Elements
Cost of LEED Element***:	$ 52,010.00	>	General Conditions
Cost of LEED Element***:	$ 140,000.00	>	Passive Solar Shading
Cost of LEED Element***:	$ 32,270.00	>	Green Roof @ Astronomy Deck
Cost of LEED Element***:	$ 25,016.00	>	High Efficiencey Boilers
Cost of LEED Element***:	$ 32,000.00	>	Lighting Controls
Cost of LEED Element***:	$ 260,000.00	>	Storm Water System/Pervious Paving/Rain Gardens
Added Cost:	$ 541,296.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ 250,000.00	>	Sub Surface Storm Water Containment
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ 250,000.00		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ 291,296.00
Cost of LEED/Overall Consultant Fees (%):	1.3%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

	Describe
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Building S (Science and Technology Building)
Building Gross Square Footage:	62,882
Institution/University or Agency Name:	Bellevue College
Submitted By (Name/Phone):	Bob Colasurdo (206) 510-8174
LEED Level Achieved:	Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 128,691.00
Commissioning Fees:	$ 91,960.00
ELCCA Preparation Fees:	$ 33,812.00
Overall Consultant Fees:	$ 2,996,874.00

* Use the Application for Payment

Overall Cost of LEED
$ 140,691.00

Overall Project Cost (Consultant + Construction)
$ 30,642,760.00

Cost of LEED Compared to Overall Costs (%)
0.5%

LEED Submittal Fees:	$ 12,000.00
Cost of LEED/Overall Consultant Fees (%):	4.3%

Building Construction Cost Per Square Foot
$ 419.23

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ 10,000.00		
Site Work & Related Costs:	$ 1,261,817.00		
Facility Construction Costs:	$ 26,362,069.00		
Max. Allowable Construction Costs (MACC):	$ 27,633,886.00		
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ -		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ -
Cost of LEED/Overall Construction Fees (%):	0.0%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

Describe	
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	sn-'w'ey'-mn, Spokane, WA
Building Gross Square Footage:	70,533
Institution/University or Agency Name:	Spokane Falls Community College
Submitted By (Name/Phone):	Doug Kearsley
LEED Level Achieved:	Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 76,715.00
Commissioning Fees:	$ 115,360.00
ELCCA Preparation Fees:	$ 10,500.00
Overall Consultant Fees:	$ 1,318,348.00

* Use the Application for Payment

Overall Cost of LEED
$ 80,339.00

Overall Project Cost (Consultant + Construction)
$ 15,321,972.00

Cost of LEED Compared to Overall Costs (%)
0.5%

LEED Submittal Fees:	$ 3,624.00
Cost of LEED/Overall Consultant Fees (%):	5.8%

Building Construction Cost Per Square Foot
$ 181.51

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ -		
Site Work & Related Costs:	$ 1,605,582.00		
Facility Construction Costs:	$ 12,802,413.00		
Max. Allowable Construction Costs (MACC):	$ 14,000,000.00		
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ -		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ -
Cost of LEED/Overall Construction Fees (%):	0.0%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

Describe	
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Business Education building/ Pasco, WA
Building Gross Square Footage:	24,000
Institution/University or Agency Name:	Columbia Basin College
Submitted By (Name/Phone):	David Combs, 360-902-0922
LEED Level Achieved:	Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 69,000.00
Commissioning Fees:	$ 35,000.00
ELCCA Preparation Fees:	$ 12,000.00
Overall Consultant Fees:	$ 701,647.56

* Use the Application for Payment

Overall Cost of LEED
$ 171,903.35

Overall Project Cost (Consultant + Construction)
$ 7,381,611.86

Cost of LEED Compared to Overall Costs (%)
2.3%

LEED Submittal Fees:	$ 5,335.00
Cost of LEED/Overall Consultant Fees (%):	9.8%

Building Construction Cost Per Square Foot
$ 271.43

Construction Costs**	Costs		
Building Demolistion Cost:	$ 152,285.00		
Site Work & Related Costs:	$ 8,112.00		
Facility Construction Costs:	$ 6,514,232.30		
Max. Allowable Construction Costs (MACC):	$ 4,559,600.00		List LEED Elements
Cost of LEED Element***:	$ 13,733.00	>	Translucent Sandwich Panels
Cost of LEED Element***:	$ 13,416.00	>	Solor Water Heating
Cost of LEED Element***:	$ 24,000.00	>	skylights
Cost of LEED Element***:	$ 46,419.35	>	Extra contractor tracking and reporting 1%
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 97,568.35		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ 97,568.35
Cost of LEED/Overall Construction Fees (%):	2.1%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

Describe	
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	New Physical Education Center, Vancouver
Building Gross Square Footage:	28,902
Institution/University or Agency Name:	Washington State School for the Blind
Submitted By (Name/Phone):	Dwayne E. Harkness
LEED Level Achieved:	Target Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 36,500.00
Commissioning Fees:	$ 26,621.00
ELCCA Preparation Fees:	$ -
Overall Consultant Fees:	$ 321,357.00

* Use the Application for Payment

Overall Cost of LEED
$ 41,500.00

Overall Project Cost (Consultant + Construction)
$ 7,528,357.00

Cost of LEED Compared to Overall Costs (%)
0.6%

LEED Submittal Fees:	$ 5,000.00
Cost of LEED/Overall Consultant Fees (%):	11.4%

Building Construction Cost Per Square Foot
$ 217.91

Construction Costs**	Costs		
Building Demolistion Cost:	$ 246,000.00		
Site Work & Related Costs:	$ 1,423,000.00		
Facility Construction Costs:	$ 6,298,000.00		
Max. Allowable Construction Costs (MACC):	$ 7,202,000.00		List LEED Elements
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ -		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ -
Cost of LEED/Overall Construction Fees (%):	0.0%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

Describe	
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Washington Youth Academy, Bremerton, WA
Building Gross Square Footage:	18,050
Institution/University or Agency Name:	Washington Military Dept.
Submitted By (Name/Phone):	
LEED Level Achieved:	Silver

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 68,400.00
Commissioning Fees:	$ -
ELCCA Preparation Fees:	$ -
Overall Consultant Fees:	$ 459,379.00

* Use the Application for Payment

Overall Cost of LEED
$ 92,400.00

Overall Project Cost (Consultant + Construction)
$ 4,057,873.00

Cost of LEED Compared to Overall Costs (%)
2.3%

LEED Submittal Fees:	$ 3,500.00
Cost of LEED/Overall Consultant Fees (%):	14.9%

Building Construction Cost Per Square Foot
$ 190.79

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ -		
Site Work & Related Costs:	$ 151,265.00		
Facility Construction Costs:	$ 3,443,729.00		
Max. Allowable Construction Costs (MACC):	$ 3,594,994.00		
Cost of LEED Element***:	$ 10,000.00	>	Heat recovery unit
Cost of LEED Element***:	$ 5,500.00	>	Water efficient fixtures
Cost of LEED Element***:	$ 3,000.00	>	Premium efficieny furnaces
Cost of LEED Element***:	$ 2,000.00	>	Premium efficiency condensing units
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 20,500.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ 20,500.00
Cost of LEED/Overall Construction Fees (%):	0.6%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

Describe	
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Clark Hall - Seattle, WA
Building Gross Square Footage:	30,568
Institution/University or Agency Name:	University of Washington
Submitted By (Name/Phone):	Clara Simon 206-543-2258
LEED Level Achieved:	LEED-NC v2.1 Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$98,010
Commissioning Fees:	$51,855
ELCCA Preparation Fees:	$16,000
Overall Consultant Fees:	$2,228,282

* Use the Application for Payment

Overall Cost of LEED
$ (213,012.00)

Overall Project Cost (Consultant + Construction)
$ 15,619,920.00

Cost of LEED Compared to Overall Costs (%)
-1.4%

LEED Submittal Fees:	$1,978.00
Cost of LEED/Overall Consultant Fees (%):	4.4%

Building Construction Cost Per Square Foot
$ 562.65

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ 784,200.00		
Site Work & Related Costs:	$230,582		
Facility Construction Costs:	$17,199,162		
Max. Allowable Construction Costs (MACC):	$13,389,660		
Cost of LEED Element***:	$7,000.00	>	Air Chemical Testing
Cost of LEED Element***:	$150,000	>	Mechanically Operated Skylights
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 157,000.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$450,000	>	Air Conditioning
Savings, Didn't Install Something****	$20,000	>	Electric Vehicle Charging Station
Savings, Didn't Install Something****	$ -	>	
Savings:	$ 470,000.00		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ (313,000.00)
Cost of LEED/Overall Construction Fees (%):	-2.3%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

Describe	
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Floyd & Delores Jones Playhouse Theatre - Seattle, WA
Building Gross Square Footage:	12,692
Institution/University or Agency Name:	University of Washington
Submitted By (Name/Phone):	Clara Simon - 206-543-2258
LEED Level Achieved:	LEED-NC v2.1 - Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$65,193
Commissioning Fees:	$18,885
ELCCA Preparation Fees:	$15,000
Overall Consultant Fees:	$1,419,432

* Use the Application for Payment

LEED Submittal Fees:	$1,085
Cost of LEED/Overall Consultant Fees (%):	4.6%

Overall Cost of LEED
$ (42,723.00)

Overall Project Cost (Consultant + Construction)
$ 9,687,248.00

Cost of LEED Compared to Overall Costs (%)
-0.4%

Building Construction Cost Per Square Foot
$ 828.27

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$514,000		
Site Work & Related Costs:	$621,770		
Facility Construction Costs:	$10,512,379		
Max. Allowable Construction Costs (MACC):	$8,266,731		
Cost of LEED Element***:	$421	>	Green Power Purchase
Cost of LEED Element***:	$16,578	>	Energy Star Rated Roof
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 16,999.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$126,000	>	Chiller for Air Conditioning
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ 126,000.00		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ (109,001.00)
Cost of LEED/Overall Construction Fees (%):	-1.3%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

Describe	
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Early Learning Center
Building Gross Square Footage:	12,962
Institution/University or Agency Name:	Tacoma Community College
Submitted By (Name/Phone):	Matt Lane, McGranahan Architects (253) 383-3084
LEED Level Achieved:	Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 72,000.00
Commissioning Fees:	$ 23,000.00
ELCCA Preparation Fees:	$ -
Overall Consultant Fees:	$ 785,000.00

* Use the Application for Payment

Overall Cost of LEED
$ 191,321.00

Overall Project Cost (Consultant + Construction)
$ 5,661,665.00

Cost of LEED Compared to Overall Costs (%)
3.4%

LEED Submittal Fees:	$ 3,500.00
Cost of LEED/Overall Consultant Fees (%):	9.2%

Building Construction Cost Per Square Foot
$ 305.46

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ 69,000.00		
Site Work & Related Costs:	$ 844,838.00		
Facility Construction Costs:	$ 3,959,327.00		
Max. Allowable Construction Costs (MACC):	$ 4,873,165.00		
Cost of LEED Element***:	$ 18,578.00	>	Energy Monitoring
Cost of LEED Element***:	$ 20,243.00	>	Metal Framed Skylights
Cost of LEED Element***:	$ 152,000.00	>	Hydronic Heating at concrete slabs
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 190,821.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ 75,000.00	>	Natural Ventilation - saved HVAC & ductwork
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ 75,000.00		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ 115,821.00
Cost of LEED/Overall Construction Fees (%):	2.4%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

	Describe
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	College Activities Building/Olympia
Building Gross Square Footage:	95,798
Institution/University or Agency Name:	The Evergreen State College
Submitted By (Name/Phone):	Azeem Hoosein/ 360-867-6041
LEED Level Achieved:	(Target Gold)

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 75,000.00
Commissioning Fees:	$ 103,000.00
ELCCA Preparation Fees:	$ 19,720.00
Overall Consultant Fees:	$ 1,880,000.00

* Use the Application for Payment

Overall Cost of LEED
$ 312,055.00

Overall Project Cost (Consultant + Construction)
$ 15,555,000.00

Cost of LEED Compared to Overall Costs (%)
2.0%

LEED Submittal Fees:	$ 5,000.00
Cost of LEED/Overall Consultant Fees (%):	4.0%

Building Construction Cost Per Square Foot
$ 145.54

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ 330,000.00		
Site Work & Related Costs:	$ 170,000.00		
Facility Construction Costs:	$ 13,942,000.00		
Max. Allowable Construction Costs (MACC):	$ 13,670,000.00		
Cost of LEED Element***:	$ 153,888.00	>	heat recovery unit
Cost of LEED Element***:	$ 78,167.00	>	cistern
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 232,055.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ 232,055.00
Cost of LEED/Overall Construction Cost (%):	1.7%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

	Describe
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Global Learning & the Arts (Classroom/Office Bldg 2) Bothell
Building Gross Square Footage:	54,300
Institution/University or Agency Name:	SBCTC - Cascadia Community College
Submitted By (Name/Phone):	Robert Kacel (206) 255-72216
LEED Level Achieved:	Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 135,500.00
Commissioning Fees:	$ 95,000.00
ELCCA Preparation Fees:	$ 50,200.00
Overall Consultant Fees:	$ 3,200,000.00

* Use the Application for Payment

Overall Cost of LEED
$ 306,000.00

Overall Project Cost (Consultant + Construction)
$ 27,730,000.00

Cost of LEED Compared to Overall Costs (%)
1.1%

LEED Submittal Fees: $ -

Cost of LEED/Overall Consultant Fees (%): 4.2%

Building Construction Cost Per Square Foot
$ 411.23

Construction Costs**	Costs		
Building Demolistion Cost:	$ -		
Site Work & Related Costs:	$ 2,200,000.00		
Facility Construction Costs:	$ 22,330,000.00		
Max. Allowable Construction Costs (MACC):	$ 24,530,000.00		List LEED Elements
Cost of LEED Element***:	$ 80,000.00	>	Rainwater Collection System
Cost of LEED Element***:	$ 48,500.00	>	Roof Garden
Cost of LEED Element***:	$ 2,000.00	>	Bicycle Racks
Cost of LEED Element***:	$ 20,000.00	>	Energy Recovery Coil - HU-02
Cost of LEED Element***:	$ 20,000.00	>	Contractor Data Collection
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 170,500.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ 170,500.00

Cost of LEED/Overall Construction Fees (%): 0.7%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

	Describe
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	William A. Grant Water & Environmental Center Walla Walla
Building Gross Square Footage:	18,500
Institution/University or Agency Name:	Walla Walla Community College
Submitted By (Name/Phone):	David Combs, 360-902-0922
LEED Level Achieved:	Silver

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 35,000.00
Commissioning Fees:	$ 20,000.00
ELCCA Preparation Fees:	$ 12,000.00
Overall Consultant Fees:	$ 674,103.00

* Use the Application for Payment

Overall Cost of LEED
$ 56,705.00

Overall Project Cost (Consultant + Construction)
$ 3,526,390.98

Cost of LEED Compared to Overall Costs (%)
1.6%

LEED Submittal Fees:	$ 3,500.00
Cost of LEED/Overall Consultant Fees (%):	5.2%

Building Construction Cost Per Square Foot
$ 142.07

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ -		
Site Work & Related Costs:	$ 220,440.98		
Facility Construction Costs:	$ 2,628,347.00		
Max. Allowable Construction Costs (MACC):	$ 1,500,000.00		
Cost of LEED Element***:	$ 15,805.00	>	Contractor tracking and reporting 1%
Cost of LEED Element***:	$ 2,400.00	>	Green power
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 18,205.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ 18,205.00
Cost of LEED/Overall Construction Fees (%):	1.2%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

Describe	
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Rainier Building/Lakewood
Building Gross Square Footage:	80,645
Institution/University or Agency Name:	Pierce College, Ft. Steilacoom
Submitted By (Name/Phone):	Todd Flynn/360-902-7251
LEED Level Achieved:	Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 97,050.00
Commissioning Fees:	$ 130,367.00
ELCCA Preparation Fees:	$ 37,950.00
Overall Consultant Fees:	$ 3,443,581.00

* Use the Application for Payment

Overall Cost of LEED
$ 276,050.00

Overall Project Cost (Consultant + Construction)
$ 26,651,581.00

Cost of LEED Compared to Overall Costs (%)
1.0%

LEED Submittal Fees:	$ 5,000.00
Cost of LEED/Overall Consultant Fees (%):	2.8%

Building Construction Cost Per Square Foot
$ 262.77

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ -		
Site Work & Related Costs:	$ 2,012,000.00		
Facility Construction Costs:	$ 21,191,000.00		
Max. Allowable Construction Costs (MACC):	$ 23,203,000.00		
Cost of LEED Element***:	$ 112,000.00	>	PV Array
Cost of LEED Element***:	$ 20,000.00	>	Reheat Coil
Cost of LEED Element***:	$ 42,000.00	>	Green Roof
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 174,000.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ 174,000.00
Cost of LEED/Overall Construction Fees (%):	0.7%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ 157,500.00
Total Incentives:	$ 157,500.00

Utility Incentives as % of Building Costs
0.7%

	Describe
>	PV Grant Money

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Dean Hall
Building Gross Square Footage:	79,553
Institution/University or Agency Name:	Central Washington University
Submitted By (Name/Phone):	Joanne Hillemann
LEED Level Achieved:	Pending Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 94,668.00
Commissioning Fees:	$ 100,637.00
ELCCA Preparation Fees:	$ 28,450.00
Overall Consultant Fees:	$ 1,278,124.00

* Use the Application for Payment

LEED Submittal Fees:	$ 4,800.00
Cost of LEED/Overall Consultant Fees (%):	7.8%

Overall Cost of LEED
$ 272,268.00

Overall Project Cost (Consultant + Construction)
$ 24,112,093.00

Cost of LEED Compared to Overall Costs (%)
1.1%

Building Construction Cost Per Square Foot
$ 286.97

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ -		
Site Work & Related Costs:	$ -		
Facility Construction Costs:	$ 22,829,169.00		
Max. Allowable Construction Costs (MACC):	$ 22,829,169.00		
Cost of LEED Element***:	$25,000.00	>	Bike Racks, Shower Rooms & AFV Refueling
Cost of LEED Element***:	$13,200.00	>	Temperature and humidity sensors
Cost of LEED Element***:	$ 30,000.00	>	Isolated copier exhaust
Cost of LEED Element***:	$ 45,000.00	>	Stormwater Treatment Vault
Cost of LEED Element***:	$ 20,000.00	>	Recycling Stations
Cost of LEED Element***:	$ 39,600.00	>	CO2 Monitoring
Added Cost:	$ 172,800.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****		>	
Savings, Didn't Install Something****		>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ 172,800.00
Cost of LEED/Overall Construction Fees (%):	0.8%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

	Describe
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Childcare Center/ Aberdeen
Building Gross Square Footage:	6,200
Institution/University or Agency Name:	Gray Harbor College
Submitted By (Name/Phone):	Stacy Simpson/360-902-0921
LEED Level Achieved:	Going for Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 40,700.00
Commissioning Fees:	$ 39,580.00
ELCCA Preparation Fees:	$ -
Overall Consultant Fees:	$ 300,466.13

* Use the Application for Payment

Overall Cost of LEED
$ 41,508.00

Overall Project Cost (Consultant + Construction)
$ 1,988,037.13

Cost of LEED Compared to Overall Costs (%)
2.1%

LEED Submittal Fees:	$ 1,750.00
Cost of LEED/Overall Consultant Fees (%):	14.1%

Building Construction Cost Per Square Foot
$ 265.96

Construction Costs**	Costs		
Building Demolistion Cost:	$ -		
Site Work & Related Costs:	$ 36,900.00		
Facility Construction Costs:	$ 1,648,921.00		
Max. Allowable Construction Costs (MACC):	$ 1,685,821.00		List LEED Elements
Cost of LEED Element***:	$ 15,300.00	>	Radiant Slab with heat recovery
Cost of LEED Element***:	$ 3,932.00	>	Water Meter
Cost of LEED Element***:	$ 2,000.00	>	Construction Waist Management recycling costs
Cost of LEED Element***:	$ 2,250.00	>	Recycled content casework upgrade to recycled
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 23,482.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ 24,424.00	>	No irrigation landscaping
Savings, Didn't Install Something****		>	
Savings, Didn't Install Something****		>	
Savings:	$ 24,424.00		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ (942.00)
Cost of LEED/Overall Construction Fees (%):	-0.1%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

	Describe
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	IET/Hogue Technology Addition
Building Gross Square Footage:	49,280
Institution/University or Agency Name:	Central Washington University
Submitted By (Name/Phone):	Peter Richmond 509-963-1195
LEED Level Achieved:	In construction

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 81,730.00
Commissioning Fees:	$ 128,367.00
ELCCA Preparation Fees:	$ 22,550.00
Overall Consultant Fees:	$ 2,383,587.00

* Use the Application for Payment

Overall Cost of LEED
$ 556,730.00

Overall Project Cost (Consultant + Construction)
$ 14,526,587.00

Cost of LEED Compared to Overall Costs (%)
3.8%

LEED Submittal Fees:	$ 4,000.00
Cost of LEED/Overall Consultant Fees (%):	3.6%

Building Construction Cost Per Square Foot
$ 246.33

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ -		
Site Work & Related Costs:	$ 264,815.00		
Facility Construction Costs:	$ 12,139,000.00		
Max. Allowable Construction Costs (MACC):	$ 12,139,000.00		
Cost of LEED Element***:	$ 35,000.00	>	Transpired Air Collector (solar wall)
Cost of LEED Element***:	$ 47,000.00	>	Solar Water Heating
Cost of LEED Element***:	$ 87,000.00	>	Radiant Floor Slabs
Cost of LEED Element***:	$ 100,000.00	>	Chilled Beams
Cost of LEED Element***:	$ 112,000.00	>	Heat Recovery Air Handling Units
Cost of LEED Element***:	$ 90,000.00	>	Enhanced Commisioning
Added Cost:	$ 471,000.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	None
Savings, Didn't Install Something****	$ -	>	None
Savings, Didn't Install Something****	$ -	>	None
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ 471,000.00
Cost of LEED/Overall Construction Fees (%):	3.9%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

Describe
>

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Seminar II
Building Gross Square Footage:	159,524
Institution/University or Agency Name:	The Evergreen State College
Submitted By (Name/Phone):	Azeem Hoosein/ 360-867-6041
LEED Level Achieved:	Gold

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 95,000.00
Commissioning Fees:	$ 125,000.00
ELCCA Preparation Fees:	$ 32,000.00
Overall Consultant Fees:	$ 3,117,000.00

* Use the Application for Payment

Overall Cost of LEED
$ 590,000.00

Overall Project Cost (Consultant + Construction)
$ 35,075,000.00

Cost of LEED Compared to Overall Costs (%)
1.7%

LEED Submittal Fees: $ 5,000.00

Cost of LEED/Overall Consultant Fees (%): 3.0%

Building Construction Cost Per Square Foot
$ 186.69

Construction Costs**	Costs		List LEED Elements
Building Demolistion Cost:	$ 5,000.00		
Site Work & Related Costs:	$ 2,171,000.00		
Facility Construction Costs:	$ 29,782,000.00		
Max. Allowable Construction Costs (MACC):	$ 31,953,000.00		
Cost of LEED Element***:	$ 150,000.00	>	Natural ventilation
Cost of LEED Element***:	$ 180,000.00	>	Green roofs
Cost of LEED Element***:	$ 120,000.00	>	Daylighting
Cost of LEED Element***:	$ 25,000.00	>	Resource-efficient materials
Cost of LEED Element***:	$ 15,000.00	>	Low-toxic materials
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 490,000.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs: $ 490,000.00

Cost of LEED/Overall Construction Fees (%): 1.5%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)
Gas:	$ -
Electric:	$ -
Water:	$ -
Other:	$ -
Total Incentives:	$ -

Utility Incentives as % of Building Costs
0.0%

	Describe
>	

LEED Building Cost Data and Information

Return to: stuart.simpson@ga.wa.gov

Please complete this form to the best of your ability. This information is best completed by the State Project Manager responsible for the project and/or the Architect. Input data into yellow boxes.

Building Name/City:	Laura Angst Hall (Science and Allied Health Building)
Building Gross Square Footage:	65,230
Institution/University or Agency Name:	Skagit Valley College
Submitted By (Name/Phone):	Bob Colasurdo (206) 510-8174
LEED Level Achieved:	Platinum

Consultant Costs*	Costs
LEED Related Consultant Fees:	$ 119,371.00
Commissioning Fees:	$ 66,816.00
ELCCA Preparation Fees:	$ 19,364.00
Overall Consultant Fees:	$ 2,599,856.00

* Use the Application for Payment

Overall Cost of LEED
$ 477,441.00

Overall Project Cost (Consultant + Construction)
$ 25,140,200.00

Cost of LEED Compared to Overall Costs (%)
1.9%

LEED Submittal Fees:	$ 3,500.00
Cost of LEED/Overall Consultant Fees (%):	4.6%

Building Construction Cost Per Square Foot
$ 320.31

Construction Costs**	Costs		
Building Demolistion Cost:	$ 191,900.00		
Site Work & Related Costs:	$ 1,451,100.00		
Facility Construction Costs:	$ 20,893,844.00		
Max. Allowable Construction Costs (MACC):	$ 22,536,844.00		List LEED Elements
Cost of LEED Element***:	$ 254,570.00	>	Photo-Voltaics
Cost of LEED Element***:	$ 100,000.00	>	Rain Garden
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Cost of LEED Element***:	$ -	>	
Added Cost:	$ 354,570.00		List Elements not Installed due to LEED
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings, Didn't Install Something****	$ -	>	
Savings:	$ -		

**Use the Schedule of Values and best estimates

Total Added Costs:	$ 354,570.00
Cost of LEED/Overall Construction Fees (%):	1.6%

***Provide a best guess for cost. This could include solar panels, rain water capture system, or other feature that normally won't be pursued if not a LEED project.

****Didn't install something, such as a cooling system or greatly reduced the size due to natural ventilation.

Utility Incentives	Amount ($)		
Gas:	$ -		
Electric:	$ -		
Water:	$ -		
Other:	$ 254,570.00	>	State Grant for PV system
Total Incentives:	$ 254,570.00		

Utility Incentives as % of Building Costs
1.2%

Describe
State Grant for PV system

Appendices:

9. Post-Occupancy Evaluation Pilot Report

Post Occupancy Evaluation Report

Washington Light Industrial Park
Washington State Departments of Corrections and Natural Resources
June 2009

I. INTRODUCTION

This post occupancy evaluation reviews the performance of the main office and warehouse portion of the Washington Light Industrial Park in Tumwater. This facility is jointly occupied by the Department of Corrections (Correctional Industries) and the Department of Natural Resources. This evaluation is based on a survey of occupants, analysis of energy use data, a site visit, and conversations with facility operations staff. The results can be used to assess whether the facility is performing efficiently and in a way that meets the needs of its occupants.

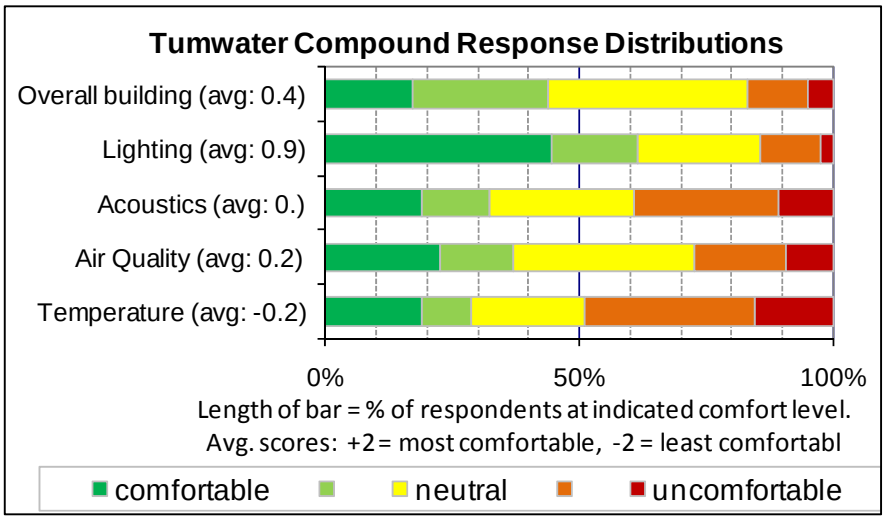
II. BUILDING DESCRIPTION

The Washington Light Industrial Park began operation in March 2006. There are several buildings at the site. The building reviewed in this study contains offices for Department of Natural Resources staff, and offices, a showroom, and a warehouse for Correctional Industries. This building received a Leadership in Energy and Environmental Design (LEED) Silver Rating (33 points).

Building: Washington Light Industrial Park	
Location	Tumwater, Washington
Occupied	March 2006
Size	60,323 ft^2 (40,000 warehouse; 20,323 office)
Cost	$8.5 million
Occupancy:	
Offices	60-80
Warehouse	10-40
Hours	7am-6pm
Building Features	
HVAC	Office: Packaged roof-top units, VAV with reheat Warehouse: suspended natural gas heaters (some are radiant) Sophisticated power management and control system
Lighting	Office: Lutron automated lighting system with T-5 pendent fixtures that are fully dimmable with daylighting controls and occupancy sensors Warehouse: Fluorescent and metal halide fixtures with occupancy sensors; skylights
Water	Low flow, automatic fixtures; instantaneous water heaters

III. OCCUPANT SURVEY

Staff working at the Washington Light Industrial Park participated in an on-line survey about building functional comfort from June 2 - 22, 2009. Eighty-four staff, approximately 73% of those invited to participate, completed the survey. Respondents liked the newness and cleanliness of the building along with its location. The questions about lighting received the most favorable response, but with respect to building temperature almost half the respondents gave ratings in the uncomfortable range.



Response distributions by major comfort dimension

Lighting comfort ratings are good.

- Daylighting and building lighting were given favorable ratings. This was reflected in some of the positive survey comments about the building.

Occupant comments about what they liked:
o I like the large windows and the views outside.
o Lots of light.

Acoustics ratings are average.

- Forty to fifty percent of the respondents gave ratings in the uncomfortable range for noise from adjoining spaces, conversational privacy, noise levels and noise distractions. Ratings in this range are not unusual for office buildings, where open layouts are common.

Air Quality ratings are good.

- Air movement, freshness, and comfort received positive or neutral responses from 70%-75% of respondents while almost 90% of the responses for humidity were neutral to positive.

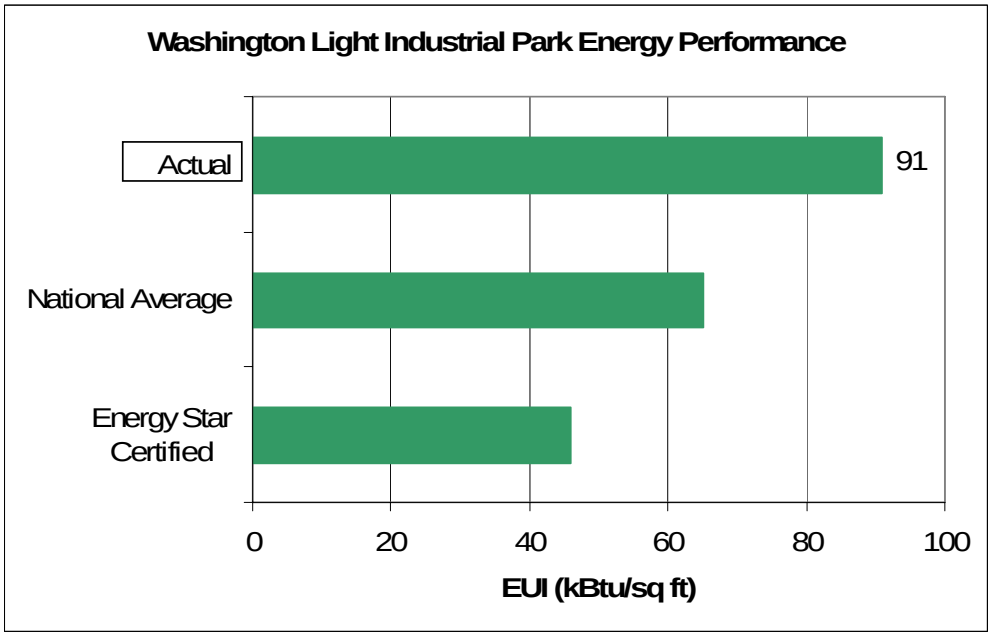
Temperature ratings are below average.

- Almost half the respondents rated temperature comfort as uncomfortable. The largest negative response was for "how cold it gets." There was some variation in the responses by work area, with the DOC office area having larger negative responses for how warm it gets and temperature fluctuations, while the DOC office area responses placed more emphasis on how cold it gets. The majority of comments about what occupants would most like to see improved in the building dealt with building temperatures.

Occupant comments about areas for improvement:

- Temperature control. It has varied dramatically from time to time.
- Very hot or cold temperatures, especially when adjusted for seasonal shifts in temperature.
- More heat in the winter and more cooling in the summer.
- Temperature control. The back of the building will be unbearably hot and then the front freezing. Absolutely freezing in winter.

IV. ENERGY PERFORMANCE



Annual Energy Use Intensity (EUI) Comparison

- The Washington Light Industrial Park Main Building has an EUI of 91. It received an Energy Star Performance Rating of 22. This means that its energy use is better than 22% of comparable facilities.
- Energy use is 40% greater than the average facility of this type (rating of 50) and twice as much as a comparable facility earning Energy Star Certification (rating of 75).
- The EUI for the most recent year has increased about 3%.

V. OPERATIONS AND MAINTENANCE

Observations are based on the building site visit and interviews with facility staff. The facility looks attractive and appears well-managed and maintained. However facility staff shared a number of concerns about the operation and maintenance of the facility.

Facility operation problems:

- In the office areas there are comfort problems due to temperature inconsistency/extremes. Air temperatures stratification is a problem and there is a lack of air-flow and conditioning in some areas. Occupants complain about being too hot or too cold. Staff believes there are problems with communication between the central control system and the conditioning units.
- In the warehouse suspended natural gas heaters run all the time in winter and struggle to keep the space comfortable, exhaust fans were running all the time, louvered exhaust air relief dampers were letting in excessive amounts of outside air, and there was air leakage from cracks in the loading dock. Staff has plugged leaks and turned off the exhaust fans, but heating units still run excessively in the winter.
- Staff noted that the interface for the lighting controls was difficult to use and every time there is a power outage they have to come out and reboot the power management system.

Facility maintenance problems:

- There have been leaks in the roof and metal siding. The gaskets on the metal siding pop out in hot weather and have to be caulked.
- The showers had to be re-plumbed to work properly and they have had trouble with grit in the lines for the auto-flush toilets.
- The air bags on the hydraulic lifts in the loading bays have been failing.

Observations about LEED certification

- The Washington Light Industrial Facility received a LEED silver rating, but only 5 of these points were in the Energy and Atmosphere category.
- Two of the Energy and Atmosphere points were for 'Additional Commissioning' and 'Measurement and Verification'. Both of these should have helped ensure building performance, but do not appear to have been fully communicated or implemented. Staff were not aware of any follow up commissioning activities or a measurement and verification plan.

VI. KEY CONCLUSIONS AND RECOMMENDATIONS

The Washington Light Industrial Park is an attractive facility. However, its energy use is high and there are problems with temperature control that have been difficult to correct. While the low Energy Star rating may partly be due to the unique nature of the building (combination warehouse/office) it is likely that energy use in this building could be significantly reduced. To address high energy use and temperature control problems, it seems that re-commissioning the building is warranted. We recommend that re-commissioning or comprehensive diagnostic and tune-up work be conducted along with developing clear operating procedures to ensure building performance is maintained.

The preparation of this report is funded by the U.S. Department of Energy State Energy Program. Funds provided through the Washington State Department of Community Trade and Economic Development Energy Division.

Post Occupancy Evaluation Report

Lake Washington Technical College, Redmond Campus

August 2009

I. INTRODUCTION

This post occupancy evaluation reviews the performance of Lake Washington Technical College (LWTC), Redmond Campus. This evaluation is based on a survey of occupants, analysis of energy use data, a site visit, and conversations with facility operations staff. The results can be used to assess whether the facility is performing efficiently and in a way that meets the needs of its occupants.

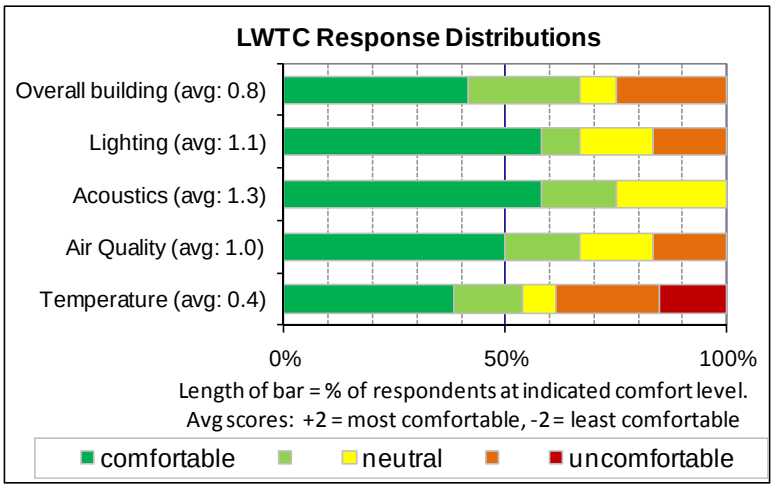
II. BUILDING DESCRIPTION

LWTC Redmond Campus began operation in May 2005. This is a two-story buildings housing conference rooms, classrooms, computer lab, tiered auditorium and administrative offices. It received a LEED silver rating.

Building: LWTC Redmond Campus	
Location	Redmond, Washington
Constructed	2005
Size	20,027
Cost	$4,810,028
Occupancy	
Students	+/- 100
Staff	+/- 20
School Hours	7:00am - 10:00pm; frequent community use
Building Features	
HVAC	Two VAV w/hot water reheat, one air cooled, one water cooled
Lighting	T-8 troffers with occupancy sensors in classrooms, T-5 in common spaces without sensors
Daylighting	Light shelves on most exterior windows; lots of daylight in entry area
Water	No Low flow fixtures

III. OCCUPANT SURVEY

Teachers and staff working at LWTC participated in an on-line survey about building functional comfort from August 15 - 30, 2009. Thirteen teachers and staff completed the survey. Over 80% of the respondents were comfortable or neutral in each main dimension except temperature, for which the number was approximately 60%. *All* respondents rated acoustics as comfortable or neutral, an unusually positive result.



Response distributions by major comfort dimension

Lighting comfort ratings are very good. However, there were a couple of comments.

- There were comments about not being able to turn the lights on or off manually.
- There doesn't appear to be a method to control the lighting at the projection screens.

Acoustics ratings are also relatively high. There were no additional comments about the acoustics.

Air Quality ratings are good. There were no additional comments about the air quality.

Temperature ratings are average. This is the only area that received a significant number of negative comments. Temperature fluctuations between hot and cold were the greatest concern.

- Controls and adjustments have been difficult and there are still problem areas.
- There are high temperature fluctuations.
- The occupants have stated that it doesn't appear they actually have temperature control.

IV. ENERGY PERFORMANCE

LWTC has an EUI of 72 while the national average is 120. This means that its energy use is a little more than ½ that of comparable schools, and this is very good. This is the result of some great talent in the Maintenance and Operations staff.

V. OPERATIONS AND MAINTENANCE

These observations are based on the building site visit and interviews with facility staff.

- Mechanical
  - Building commissioning did not appear to have been conducted at LWTC prior to occupancy.
    - Dampers on VAV boxes not balanced/commissioned.
    - Dampers on RTU's not balanced/commissioned.
    - Reheat hot water valves not balanced/commissioned.
    - Control system on substituted equipment incompatible with Owner's system.
    - Economizers not controlled/commissioned.
    - Cooling tower cycling
    - The controls system is still being worked on.
  - Owner spent tens of $1000's getting their building to function. All of the VAV terminal box water valve and air damper actuators have had to be recalibrated, boiler operation inadequate and redesigned, cooling tower difficult to keep on line, etc.
  - They continue to have problems with the controls system communicating with the campus Alerton DDC control system and providing temperature control.
  - The boilers required a redesign to get them to work reliably.
  - There have been and continue to be occupant complaints about being too hot or too cold
- There were water leaks in the roof that have now been repaired

VI. KEY CONCLUSIONS AND RECOMMENDATIONS

Lake Washington Technical College is performing well now. Its energy use is better than comparable schools. Occupant ratings of building comfort were mixed, particularly regarding the ability to control thermal comfort. It took some time for the Owner to get their system adjusted. There is no energy manager per se, but the college's operations and maintenance staff are keenly aware of their contribution to the energy consumption, comfort, and longevity of their facilities.

Like many school districts, Lake Washington Technical College has limited facility operation and maintenance staff and does not have the resources for a full preventive maintenance program at their schools. They do have an Equipment Mechanical who has volunteered to take on energy management responsibilities. He tracks facility energy use and is attempting to carve out the necessary staff time to implement a computerized maintenance management system.

The key recommendation for this facility is to allow the Maintenance and Operations staff to be directly involved in the design and construction process for buildings, and, to be directly involved in the turnover of the building to the Owner.

- Lessons learned include:
    - All equipment needs to be demonstrated to function in all modes: heating, cooling, economizer, and high CO2 levels to the Engineer's and Owner's approval, in writing.
    - Lighting controls need to have an ability to override the motion sensor.
    - Given erratic occupancy schedule of college classrooms, provide 1-2 hr over-rides on HVAC systems, or interlock with occupancy sensor.
    - Unneeded lights in common spaces were on. Photo sensing can be added, particularly in the atrium and second floor main corridor.
    - Controls for carbon dioxide sensors should be modified to control the damper on the terminal unit and not the economizer function on the RTU's.
    - Landscape labor intensive and difficult to maintain.
    - Some rooms very difficult to make comfortable due to excessive glazing without light shelves.
    - Provide energy-misers on vending machines
    - Provide a post-occupancy commissioning that includes training of occupants.

The preparation of this report is funded by the U.S. Department of Energy State Energy Program. Funds provided through the Washington State Department of Community Trade and Economic Development Energy Division.

Post Occupancy Evaluation Report

Merrill Hall - University of Washington

August 2009

I. INTRODUCTION

This post occupancy evaluation reviews the performance of Merrill Hall at the University of Washington. This evaluation is based on a survey of occupants, analysis of energy use data, a site visit, and conversations with facility operations staff. The results can be used to assess whether the facility is performing efficiently and in a way that meets the needs of its occupants.

II. BUILDING DESCRIPTION

Merrill Hall began operation in late January 2005. The new building replaced the previous structure on the same site. This was a LEED Silver project. This building shares the electric and gas service with two other buildings, Isaacson and Horticulture. The new building is built over the footprint of the old building.

Building: Merrill Hall, University of Washington	
Location	Seattle, Washington
Constructed	2005
Size	19,670 S.F. plus 6,915 S.F. accessory buildings
Cost	$3.8M (including furniture)
Occupancy: 2008/2009 School Year	
Students	50
Staff	20
School Hours	66-80 hours per week
Building Features	
HVAC	100% floor area hot water heat, 60% floor area chilled water cooling, 40% natural ventilation w/radiant heat, VAV
Lighting	T-5 pendent fixtures with occupancy sensors
Daylighting	Light shelves on some exterior windows; lots of daylight in entry area
Water	Low flow fixtures

III. OCCUPANT SURVEY

Over 70% of the respondents were comfortable or neutral in each main dimension. Over 80% of respondents report *comfortable* conditions for the overall building and lighting. Light and views also represented the most-mentioned features in response to the open-ended question of what was liked most about the building.

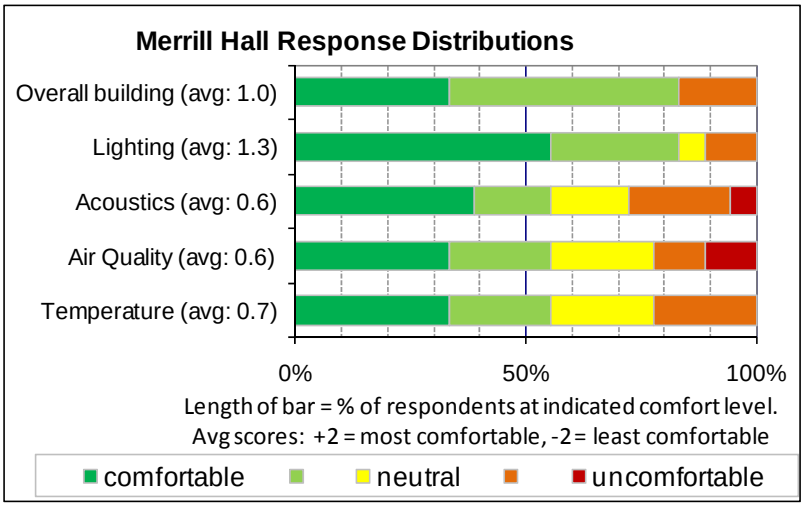


Figure 1: Response distributions by major comfort dimension

The average comfort ratings for Merrill Hall are well above the *Buildings In Use* (BIU) normatal national averages in each of the primary categories of temperature, acoustics, lighting and air quality. However, the following negative information was gathered from the occupants.

- Acoustics:
  - There is too much noise from ventilation systems and adjoining areas.
  - There is a lack of conversational privacy.
- Temperature:
  - The majority of the occupants report discomfort with temperatures that are too warm in the summer and too cold in the winter
- Air quality:
  - There are humidity concerns for the herbarium and rare book room
  - There are areas with “a general lack of fresh air’.

IV. ENERGY PERFORMANCE

Merrill Hall has an Energy Use Intensity (EUI, kBtu/SF) of 174. The National average EUI is only 120. The EUI takes into consideration the weather conditions, size of building, use of the building, etc, and compares the energy usage from actual utility bills to other similar buildings across the country. **This means that its energy use is half again higher than the national average for a comparable building.**

While the direction is to get a Portfolio manager score of 75 or higher, this building would get a score of about 25. A score of 25 means that 75% of similar facilities use less energy per square foot than this building.

The area used for this calculation included Isaacson and Horticulture because the gas and electric meters serve all three buildings. Therefore, the EUI accurately reflects the total square footage of all three buildings.

V. OPERATIONS AND MAINTENANCE

The primary observations based on the building site visit and interviews with facility staff are:

- HVAC
  - The temperature is difficult to control. The mechanical problems still exist.
  - The bathrooms develop odors.
  - The mechanical systems are complicated and require more than average attention to keep the equipment running and to try to keep the occupants comfortable.
  - The chiller runs at too low a level when the only load is the herbarium. It would not be uncommon to see a separate cooling unit for a zone that requires cooling all year.
  - The fume hoods were in the open position in labs, wasting the energy used to heat and cool the air, and the increased exhaust fan power.
- Plumbing
  - The staff does not like the waterless urinals with the canisters that need to be replaced. It is a messy job the custodians refuse to do. The waterless urinals with a vegetable oil seal work better.
  - The sewer lines were clogging. The dual flush toilet had been disabled to allow normal flows. The usual design assumptions need to be checked
- Lighting
  - All lights were on in the library even though there was good daylighting. Perhaps interrupting the lighting circuit with a photo sensor would be a good investment.

VI. KEY CONCLUSIONS AND RECOMMENDATIONS

1. Merrill Hall's energy use is not good compared to other comparable buildings. We recommend investigating where all the energy consumption is occurring to see what can be done to curtail the use.
2. Although the occupant survey results show a comfort level better than other buildings, the occupant ratings for this building were not good, particularly regarding the HVAC system. An energy manager tracks energy use, however, we understand that the Operations and Maintenance staff are in a primarily reactionary mode, and unable to do more than basic preventive maintenance and put out fires.
3. The noise transmission is an encumbrance. Adding ceilings may mitigate this problem.
4. It appears that reaching for LEED points was at the expense of an easy to operate mechanical design.
5. We recommend the building be re-commissioned.
6. We recommend training the occupants to know how to operate a naturally ventilated building: space heaters, when to open windows and doors, what to expect, etc.

The preparation of this report is funded by the U.S. Department of Energy State Energy Program. Funds provided through the Washington State Department of Community Trade and Economic Development Energy Division.

Post Occupancy Evaluation Report

Thompson Elementary School
Bethel School District
July 2008

I. INTRODUCTION

This post occupancy evaluation reviews the performance of Thompson Elementary School. It is based on a survey of occupants, analysis of energy use data, and a site visit and conversations with facility operations staff. The results can be used to assess whether the school is performing efficiently and in a way that meets the needs of its occupants.

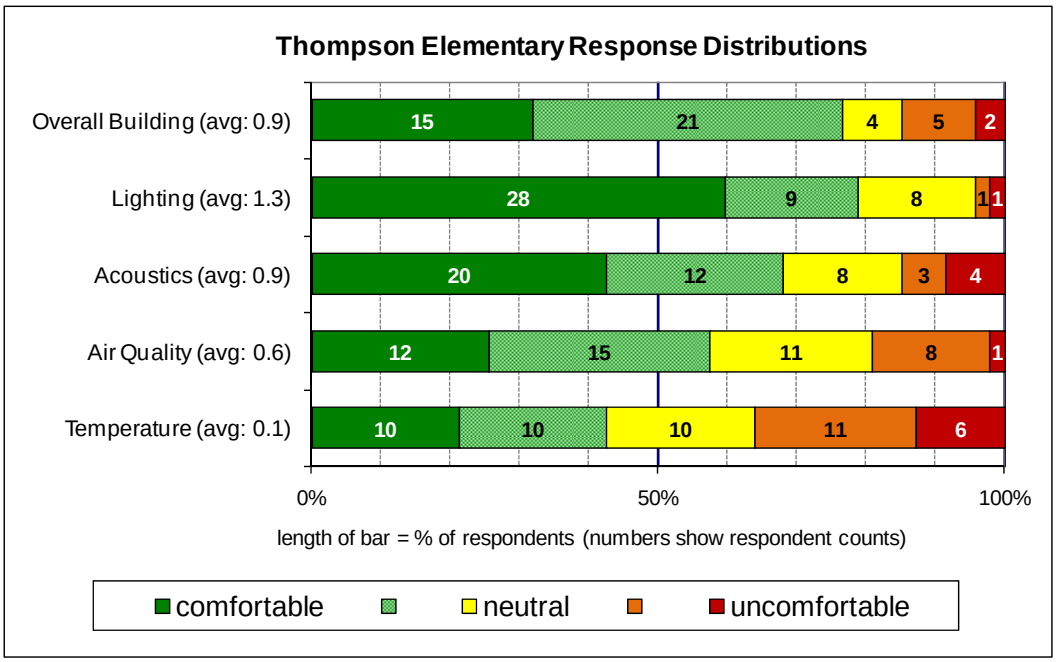
II. BUILDING DESCRIPTION

Thompson Elementary School began operation in late October 2005. The new building replaced the previous structure on the same site. This was a Washington Sustainable Schools Pilot Project. This school was projected to have a Washington Sustainable Schools score of 51 (40 is the minimum requirement; 96 is the maximum possible).

Building: Thompson Elementary	
Location	Tacoma, Washington
Constructed	2005
Size	64,926 (includes 6 portable classrooms)
Cost	?
Occupancy: 2007/2008 School Year	
Students	497
Staff	65
School Hours	8:50-2:55; frequent community use
Building Features	
HVAC	Ground-source heat pumps (uses ground as heat sink/source); high efficiency heat pumps; variable speed pumps
Lighting	T-5 pendent fixtures with occupancy sensors
Daylighting	Light shelves on some exterior windows; lots of daylight in entry area
Water	Low flow fixtures; no cooling tower

III. OCCUPANT SURVEY

Teachers and staff working at Thompson Elementary participated in an on-line survey about building functional comfort from June 12 - 20, 2008. Forty-eight teachers and staff, 74% of those invited to participate, completed the survey. The results are positive and indicate that most teachers and staff find Thompson Elementary a comfortable place to work.



Response distributions by major comfort dimension

Lighting comfort ratings are very good.

- Daylighting and natural light contribute to the overall positive ratings, which was reflected in a number of positive survey comments

Occupant comments about what they liked:
o The way it feels light and airy.
o The natural light available through the windows.
o It is bright and colorful. We also use natural lighting as much as possible.

Acoustics ratings are also relatively high.

- Noise ratings, even for noise from adjoining spaces, were mostly positive

Air Quality ratings are good.

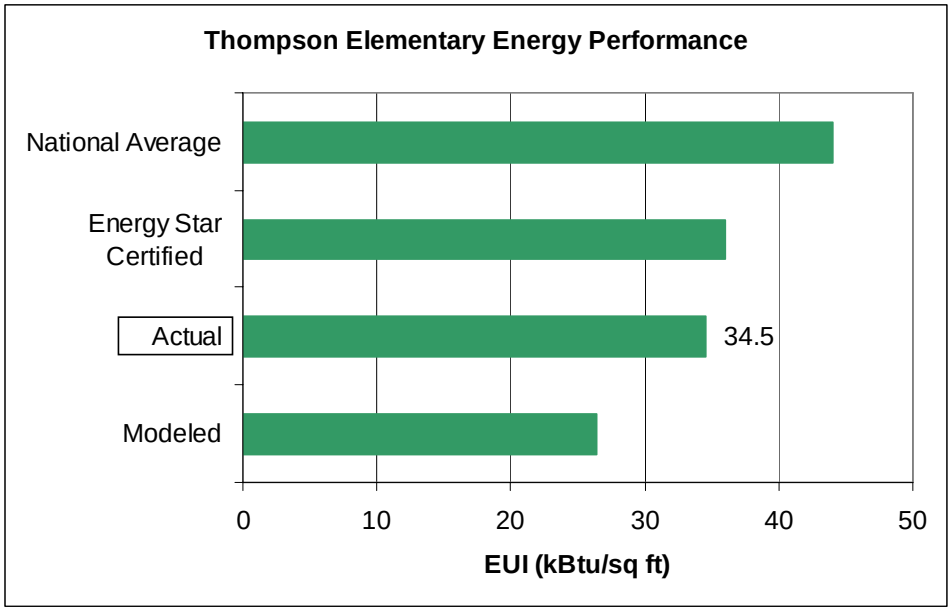
- Air quality controls received lower ratings than air movement and air freshness.

Temperature ratings are average.

- This is the only area that received a significant number of negative comments. Temperature fluctuations between hot and cold were the greatest concern.

Occupant comments about areas for improvement:
o The heating system goes from one extreme to another. If that could be worked on that would be great
o We are constantly dressing in layers because one minute it is too warm and the next too cold

IV. ENERGY PERFORMANCE



Annual Energy Use Intensity (EUI) Comparison

- Thompson Elementary has an EUI of 34.5. It received an Energy Star Performance Rating of 77. This means that its energy use is better than 77% of comparable schools. Its energy use is 22% less than the average school.
- Thompson Elementary has bettered the EUI for Energy Star Certification (in this case an EUI of 36).
- The Energy Life Cycle Cost Analysis (ELCCA) conducted for Thompson Elementary used a computer model to estimate an annual EUI of 26. Actual energy use is often greater than modeled estimates because it is difficult to predict how the building will be used and operated.
- The EUI for the 2007/2008 school year is 11% less than the 2006/2007 school year.

V. OPERATIONS AND MAINTENANCE

These observations are based on the building site visit and interviews with facility staff.

- Building commissioning was conducted at Thompson Elementary prior to occupancy. However, a ground source heat pump system is a complex system - it took 6-7 months to get the system running well. They had an expert on ground-source heat pumps come and make adjustments to the system. Once they got it running well, there have been no problems. Facility staff believes Thompson Elementary is easier to operate and maintain than other schools in the district. Equipment is easy to access, the heat pumps are quality units, and boilers and chillers in other schools require more maintenance.
- Lessons learned include:
    - Make sure there is back-up heat for cold weather. The school does not have boilers, but uses a heat exchanger from the domestic hot water heater.
    - They had problems with the air flow switches not working. The duct heaters would not come on because the switches were not registering air flow. They had to be replaced.
    - They had water leaks because some pipe fittings on valves were over-tightened.
    - The sensors at the end of the geothermal loop were not connected, so the variable speed pumps were not receiving the proper pressure drop readings and the heat pumps were locking out because they were not getting enough flow.
- The school appears well-managed and maintained. Unneeded lights were off. Mechanical spaces were clean. The school looked nice and was not showing signs of wear and tear after two years of operation. Like many school districts, Bethel School District has limited facility operation and maintenance staff and does not have the resources for a preventive maintenance program at their schools. They do have an energy manager who tracks facility energy use.
- There have been some occupant complaints about being too hot or too cold. Facility staff believes this is partly due to a lack of understanding by occupants of how the control system works.

VI. KEY CONCLUSIONS AND RECOMMENDATIONS

Thompson Elementary School is performing well. Its energy use is better than comparable schools and occupant ratings of building comfort were positive, particularly regarding the daylighting and lighting. It took some time to get the ground-source heat pump system adjusted, but it is working well now. An energy manager tracks energy use, helping to maintain performance. However, the lack of a preventive maintenance program may negatively impact future building performance.

One area with potential for improvement is space temperature. Occupants complained about temperature fluctuations – going from one extreme to the other. Some adjustments to the HVAC controls, perhaps increasing temperature deadbands, might address this concern and also save some energy.

The preparation of this report is funded by the U.S. Department of Energy State Energy Program. Funds provided through the Washington State Department of Community Trade and Economic Development Energy Division.

Washington State's Proposed Post Occupancy Evaluation Process and Forms

Final Report
October 2009
WSUEEP09-034

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WASHINGTON STATE UNIVERSITY
EXTENSION ENERGY PROGRAM

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The New Buildings Institute supported this project with their expertise and the occupant survey they developed for Post Occupancy Evaluation (POE) projects. The New Buildings Institute developed a POE approach with funding from the BetterBricks Initiative of the Northwest Energy Efficiency Alliance that was an important model for the approach described in this document.

Contents

Introduction

Washington State's High Performance Public Buildings Law (RCW 39.35D) requires all state facilities to be designed, built, and certified to the LEED™ (Leadership in Energy and Environmental Design) Silver standard. The lead agency for implementing this law is the Washington State Department of General Administration. Among its responsibilities, General Administration submits a biennial report to the legislature on implementation of the law including documenting ongoing operation savings and making recommendations regarding implementation. To supplement the reporting and quality assurance requirements in this law, General Administration worked with the Washington State University Energy Program to conduct a pilot project to test the use of Post Occupancy Evaluation (POE) in high performance and LEED public buildings in Washington.

The intent of this pilot project was to develop a simple POE approach that could be used in Washington. Conducting a POE on new state buildings would help document the benefits of Washington's High Performance Public Buildings Law, identify opportunities for improving building performance, and provide feedback that can be used to improve the design and performance of future buildings.

The materials in this document were developed during the pilot project. The next section in this report gives a brief summary of the pilot project. For more information on POE and its benefits, see the background research summary report for the pilot project.[1] The majority of this document contains the information and forms that describe the proposed post occupancy evaluation (POE) process for new buildings in Washington.

The content for the proposed POE approach is split into two parts. The first part contains guidance materials for the person(s) conducting the POE (POE Agent). These materials guide the POE Agent through the steps of the POE. The second part contains information and forms for staff at the facility. These materials explain the process and provide forms to be completed by staff at the facility.

The proposed POE approach in this document provides a basis for developing guidelines for POE in new buildings in Washington that must comply with RCW 39.35D. Widespread adoption of POE in Washington would provide a mechanism for feedback in the building design, development, and operations process to support the objectives of the High Performance Public Buildings Law – high performance buildings "that save money, improve school performance, and make workers more productive."

[1] Kunkle, Rick, 2007. *Post Occupancy Evaluation Assessment: Background Research Summary*, Prepared for the Washington State Department of General Administration, WSUEEP08-008.

Overview of the POE Pilot Project

The POE pilot project consisted of three parts. First, we conducted background research on POE. We identified nine organizations involved with POE, conducted web research and interviews, and reviewed reports and materials collected in our research. The results of this work are summarized in the report referenced in the previous section (Kunkle 2007).

Next we developed a POE approach that could be tested in recently constructed state buildings. This simple POE approach consisted of three elements:

- energy and water consumption analysis
- occupant surveys
- site visit and facility manager/staff interviews

Our goal was to develop a POE approach that could be conducted with a minimal level of effort. Development of our approach relied on POE work by others identified in our POE research and on existing tools like Energy Star Portfolio Manager (U.S. Environmental Protection Agency) for energy and water analysis and an occupant survey developed by the New Buildings Institute.

In the third part of our pilot project, we tested the POE approach. We conducted four pilot POE studies in recently completed state buildings. The buildings included:

- a new elementary school that was a Washington Sustainable Schools project
- a state office/warehouse building that received a LEED Silver rating
- a university building with a mix of uses that received a LEED Silver rating
- a community college building with classrooms, offices, and an auditorium that received a LEED Silver rating

The results of the pilot POE studies for these buildings were mixed. Two buildings had very good energy performance while the other two were well below average. The occupant surveys indicated that building occupants were generally satisfied, but one building had below average ratings for temperature comfort. The temperature comfort area had the lowest occupant satisfaction ratings for all the buildings. All the buildings had problems with building operations. Start up problems are not unusual in new buildings, but since these buildings were commissioned one would hope these problems would be minimal. Most (or all) problems have been corrected in two buildings, but two continue to have problems that are adversely affecting energy performance (and energy cost) and occupant comfort.

We learned some things in the process of conducting the pilot POE studies that helped us improve the POE approach. Participation in the pilot was voluntary and in a few cases we had trouble engaging facility staff in the process and it took longer to complete the POE study than we would have liked. In these cases we had trouble obtaining the information we needed from facility staff to conduct the POE study. Because facility responsibilities were shared, it was difficult to identify the person who had the information we needed or that could make things happen. Staff were busy and did not have a lot of time to deal with extra things like a POE study.

We also received very little feedback from facility staff about the POE studies for their buildings. Some were appreciative because the study affirmed what they were doing. For the buildings not performing well, we did not get any feedback on what they intended to do to address the concerns raised in the POE study. We did not meet with facility staff to discuss the results of the POE and this might have been a valuable thing to do.

Over the course of testing our POE approach, we made modifications to the approach to respond to the issues that were coming up. We better defined what we were doing and tried to be more specific about what we wanted from facility staff. This led to developing forms and handouts we could give to facility staff that describe the process and the information we need. We also developed a follow-up process for the final version of the POE approach (included in this document) to provide a way for facility staff to offer feedback and corrections to their POE study and to indicate how they intend to respond to any issues raised in the POE. This follow up process was not tested in any of the pilot projects.

This document is the final product for this pilot project. The approach and documents outlined here can be used by the Washington State Department of General Administration or others for developing guidelines for conducting POE studies in new or existing buildings.

Part 1: Information for the POE Agent

Guide to the Post Occupancy Evaluation Process for the POE Agent

The POE agent[2] is responsible for conducting the POE. The steps for this process are briefly described below. The Guides (***bold, italic***) in this section provide more details. The Forms (***bold, italic***) for facility staff are in the next section.

1. Contact. Once a new building has been occupied, the appropriate facility staff (e.g. facility director, building manager, and/or occupant manager) should be informed of the POE requirement (***Requirements for a POE***) and that they will be contacted about conducting the POE. The POE agent should contact the facility staff 15-18 months after initial occupancy[3]. The POE agent should briefly describe the process and offer to provide more information (***Overview of the POE Process***). Once the facility staff is on-board, arrangements for the site visit should be made.

   Result: Scheduled site visit

2. Site visit. Prior to the site visit, the POE Agent can send some of the forms that need to be completed to the facility (***Building Information, Facility Management and Operations Staff Questions,*** and ***Energy Star Portfolio Manager Benchmarking Forms***). Allow 3-4 hours for the site visit. The amount of time required can vary depending on the complexity of the facility, the amount of time needed to review the process and go through the forms, and the availability of facility staff. See the ***Site Visit Guide*** for more information.

   Result: Completed building walk-through, building information form, and facility management and operations staff questions along with preparation to conduct the next steps in the process.

3. Benchmarking: The facility staff needs to collect at least the most recent 12 months[4] of utility data for all fuels and water at the facility along with the information on the ***Energy Star Portfolio Manager Benchmarking Form***. The POE Agent or other responsible party enters the information for the building into

[2] This document does not describe the qualifications for the POE Agent, leaving this for the Department of General Administration to define. Preferably the POE Agent would be an engineer or other individual with facility energy management and operations experience/knowledge. Experience with Energy Star Portfolio Manager and LEED along with being a Certified Energy Manager would be beneficial.

[3] While the pilot study did not consider earlier contact, the POE approach could include an initial contact several months after occupancy to conduct a preliminary assessment to ensure efficient operation procedures are in place for facility operations staff, to identify problems that can still be corrected during the building warranty period, and to lay the groundwork for the complete POE a year later. This is also an opportunity to ensure that design intent, planned control strategies, and performance expectations are understood and documented.

[4] Collect more than 12 months of energy and water data if it is available. This allows for a more complete analysis of energy and water use trends.

Energy Star Portfolio Manager (facility staff may already have done this). See the ***Energy Star Portfolio Manager Benchmarking Guide*** for more information.

Result: Energy Star Rating for the building (for current operation).

4. Occupant Survey: The POE Agent needs to facilitate the occupant survey process. The occupant survey is a web-based survey that facility occupants complete on-line using a link supplied via an e-mail invitation. Approval and involvement of the organization manager/director or personnel manager is very valuable. The survey is usually open for 1-2 weeks. See the ***Occupant Survey Guide*** for more information.

   Result: Occupant Survey Report

5. POE Report: The POE Agent compiles the results from the site visit, benchmarking, and occupant survey and makes recommendations. See the ***Sample POE Report***.

   Result: POE Report

Site Visit Guide for the POE Agent

The site visit is the initial step in the POE process. It has the following purposes:

(1) Provide an overview of the POE process to facility staff
(2) Conduct a building work-through with facility staff
(3) Discuss building operation with facility staff
(4) Initiate the next steps in the process
(5) The POE Agent conducting the facility site visit should collect the following building information, make the following observations, and ask facility staff the following questions. They should also begin the process for conducting the occupant survey and collecting energy and water consumption data. The site visit includes the building and grounds.

Overview

Review the ***Overview of the POE Process*** form with facility staff. Discuss the steps in the process, the results (give them a copy of the ***Sample POE Report***), and expectations of the POE. Discuss the ***Building Information, Facility Management and Operations Staff Questions,*** and ***Energy Star Portfolio Manager Benchmarking*** forms. Answer any questions about the information that is being requested. It may be beneficial to send these forms to facility staff prior to the visit. Prior to the visit you should review information about the building that was collected by the Department of General Administration as part of the construction process. This information can be used to begin filling out the ***Building Information Form***.

Building Walk-through

Take a tour of the building with building staff. Note the building characteristics that are collected on the building information form. Ask to be shown HVAC systems, major equipment, and unique building features that contributed to the LEED rating the building achieved.

Make the following observations:

- Signs of energy waste (lights on, etc.)
- Comfort (lighting, glare, temperature, air flow, noise)
- Occupancy (how the facility is used)
- Appearance (facility conditions, etc.)
- Quality of maintenance
- Overall building environment

Ask staff about building operation and performance and if possible note and observe successes and problem areas.

- What aspects of the building are working well?
- What problems are they having?
- Try to gain an understanding of who is responsible for building operation and maintenance.

- Are they measuring the benefits of the new building in any way? This might include energy benefits or occupant benefits such as improved productivity or less absenteeism.
- If the facility received LEED credit for enhanced commissioning or monitoring and verification, ask what steps have been taken to meet the requirements of these credits.

In particular check unique or innovative sustainable features of the building. These include things that contributed to the LEED rating. How are these aspects of the building working? What have they learned about the application of these sustainable features?

Next Steps

If possible, get the information needed to conduct the next steps in the POE – energy analysis and occupant survey. Otherwise, ask them to provide this information along with the completed ***Building Information*** form***, Facility Management and Operations Staff Questions*** form**,** and ***Energy Star Portfolio Manager Benchmarking*** form by a certain date. The Energy Star Portfolio Manager Benchmarking may already be available as a result of requirements to enter this data into Portfolio Manager as a result of Washington State E2SSB 5854 passed in 2009. If this is the case, the POE agent should obtain a copy of the Energy Star Statement of Energy Performance Report and verify its content.

The results of the site visit should be documented in a brief site visit report that summarizes the observations during the building tour and discussions with facility staff. Highlight successes as well as problem areas that might need further attention. The results of the energy analysis and occupant survey can be used to confirm (or not) the findings from the site visit, which can lead to recommendations in the summary POE report.

Energy Star Portfolio Manager Benchmarking Guide for the POE Agent

Energy analysis is one of the key components of a POE study. You should use Energy Star Portfolio Manager to analyze facility energy bills and produce the facility EUI (Energy Use Index in kBtu/sqft yr) and Energy Star rating (for eligible building types). You should also use Portfolio Manager to analyze facility water usage. The Energy Star Portfolio Manager website provides the information needed to conduct a benchmarking analysis:
https://www.energystar.gov/istar/pmpam/

The Energy Star Benchmarking Starter Kit has information about using Portfolio Manager:
http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager_benchmarking

The Data Collection Worksheet shows the building data you need to collect for different types of buildings. The Quick Reference Guide gives step-by-step instructions for conducting the analysis. Follow these instructions to access and log-in to Portfolio Manager, add a new facility, enter space and energy use data, and view the results.

Once you have set up the building and entered the utility data into Portfolio Manager for a facility undergoing a POE study, you can review the performance of the facility in the 'Facility Performance' portion of the summary page for the facility. The 'Summary: Energy Use' view will show the rating and EUI. You can click on the link 'Generate a Statement of Energy Performance' to produce a PDF report that contains the energy performance information and documentation of all building characteristics. You can provide this report to facility staff.

The POE report gives the Energy Star rating and the site EUI of the building from the Portfolio Manager analysis. For comparison the POE report shows the EUI for the National Average and Energy Star Certified building. Use Portfolio Manager to determine these values, which correspond to rating scores of 50 and 75. These values are shown in the 'Energy Performance' report noted above.

The POE Agent may not need to conduct the Energy Star Portfolio Manager Benchmarking because it may already be available as a result of requirements to enter this data into Portfolio Manager as a result of Washington State E2SSB 5854 passed in 2009. If this is the case, the POE Agent should obtain a copy of the Energy Star Statement of Energy Performance Report and verify its content. If this information is not available the POE Agent may want to assist facility staff in setting up their Portfolio Manager account so that they can benchmark their facility and meet the requirements of E2SSB 5854.

To receive an actual Energy Star Rating Award for a rating score of 75 or above, the EPA Statement for Energy Performance must be signed by a professional engineer.

New Buildings Institute Occupant Survey Process Guide for the POE Agent

The POE Agent facilitates the occupant survey process.[5]

1. Approval: Typically facility staff will need to obtain approval from organization management to conduct the occupant survey at their facility. The POE Agent should provide the ***New Buildings Institute Occupant Survey Form*** to facility staff. The information on the form along with links to a demo version of the survey should provide the needed information about the survey. The POE Agent should follow up if necessary to be sure approval is obtained in a timely manner.

2. Survey Set Up: The on-line survey needs to be customized for each facility. The POE Agent needs to work with facility staff to obtain answers to the set up questions on the ***New Buildings Institute Occupant Survey Form*** and then to make sure the survey is set up.

3. E-mail Invitation: Once the survey is set up for the particular facility the POE Agent e-mails the specific survey link to the facility contact. The facility contact needs to arrange for the survey invitation to be e-mailed to facility occupants. Ideally this invitation should come from someone in the organization that is in a position that adds credibility to the invitation and that will cause facility occupants to pay attention to the invitation and respond. The invitation should include the link to the survey, encourage participants to respond soon, and note that the survey will only be open for a limited time (a date should be given). Typically the survey is left open for a couple of weeks. It is important to consider the timing of the survey. Avoid times when significant portions of staff will be gone or distracted. For example, at a school avoid times near or during holiday or summer breaks.

4. Tracking Responses: The POE Agent should track the number of completed surveys. The goal is to obtain a 75% response rate. A response rate that is much lower than this is not likely to be representative of building occupants because their can be a bias for people that are either unhappy or very happy about the facility to respond to the survey. The higher the response rate, the more likely the results will reflect how the majority of occupants feel.

5. Reminder e-mail: A reminder e-mail should be sent to building staff a week or so after the initial invitation. This is particularly important if the response rate is low.

6. Results: The POE Agent should compile the results for the occupant survey using the occupant survey reporting template.

[5] The New Buildings Institute occupant survey was used for the pilot POE study and this proposed approach assumes a similar process will be used. This process may need to be adjusted to reflect arrangements made with the New Buildings Institute for ongoing use of their survey.

POE Report, Follow Up, and Deficiencies Correction Process Guide

The POE Agent produces the POE report for the facility based on the results from the site visit, benchmarking, and occupant survey. The sample POE report at the end of this document provides a template for the POE report. The report should include the following elements:

Introduction: Objective, motivation, purpose

Building Description: Basic building information, occupancy characteristics, building systems, green/LEED features

Occupant Survey: Does the building meet the needs of the occupants? Present results of the occupant survey.

Energy Performance: Does the building use resources efficiently? Present the results of the Energy Star Benchmarking. If available, also include modeling results (if modeling results are presented, it is important to provide an explanation so the information is interpreted properly).

Operations and Maintenance: How well is the building working? Are there areas that warrant further investigation or action? Summarize the results of the building walk-through and facility staff interviews.

Key Conclusions and Recommendations: Is the building meeting owner/occupant needs? Is it meeting its design and performance goals? What is working well? What opportunities exist for improvement? What steps need to be taken as a result of the post-occupancy evaluation?

The draft POE report should be submitted to the primary facility contact for review and feedback along with the ***POE Follow Up Form***. The POE Agent needs to identify issues or deficiencies from the POE process that facility staff needs to address on the ***POE Follow Up Form***. See the ***Follow Up and Deficiencies Correction Process*** description in Part 2 of this document for more explanation of this process. Facility staff should review the POE report and identify things in the report they believe need to be corrected. Facility staff should also identify how they intend to address issues raised in the POE report and how they intend to correct any deficiencies. The POE Agent makes any needed corrections to the POE report, documents on the ***POE Follow Up Form*** any suggested corrections to the POE report that were not made and why, and comments on the plan by facility staff to address issues and correct deficiencies. The final POE report along with the ***POE Follow Up Form*** is submitted to facility staff. This completes the POE process. Facility staff is expected to take steps to address issues and correct deficiencies.

Part 2: Information for Facility Staff

Requirements for a POE

In Washington State, LEED projects designed, built, and certified as a result of RCW 39.35D are required to participate in a POE process to determine building performance and to evaluate the ongoing operating savings. This can be in the form of energy and water savings as well as the productivity improvements of the occupants. The Department of General Administration shall coordinate this activity directly or in partnership with appropriate entities. The POE studies and the data resulting from the POE process will be included in the biennial reports to the legislature.

Overview of Post Occupancy Evaluation Process

Post Occupancy Evaluation (POE) is a tool for reviewing how buildings perform after they are built and occupied. It can also help identify opportunities for improving your building performance and the designs of future public buildings. The POE process consists of three elements: a site visit, energy (and water) consumption analysis and benchmarking, and an occupant survey. To participate, a facility needs to complete a building site visit and information forms, an occupant survey, and provide at least the most recent 12 months of energy (and water) data. In return the facility will receive a 3-5 page report summarizing the results of the evaluation along with key conclusions and recommendations. A POE Agent with a background in facility analysis facilitates the POE process. The following text briefly summarizes the POE approach.

Facility Site Visit

This is the first step in the POE process. It provides an opportunity to collect information about the building and building performance. The POE Agent visits the building. Facility staff provides a tour of the building, highlighting unique features of the building and discussing how the building is operating. The POE Agent will ask about things that are working well and not so well and why the building may or may not be meeting performance expectations.

During the site visit the POE Agent goes through the POE process forms with facility staff, answers questions, and helps complete the forms. The ***Building Information*** and ***Facility Management and Operations Staff Questions*** forms should be completed as part of the site visit process (or soon after the visit). If possible, facility staff should provide the POE Agent with energy and water use information at the site visit.

Energy and Water Consumption Analysis and Benchmarking

This analysis uses utility data to rate building performance relative to comparable buildings. It requires at least the most recent 12 months of energy data for all fuels and water data. More than 12 months of data is beneficial to allow for start-up issues that typically occur in the first months of building operation. The POE Agent enters the energy (and water) consumption information into Energy Star Portfolio Manager for analysis. Information from the ***Energy Star Portfolio Manager Benchmarking*** form is also needed to conduct the analysis. Many types of buildings, but not all, can be rated (benchmarked) using Portfolio Manager. If facility staff has already entered energy and water information into Portfolio Manager, the POE Agent may only need to review this.

Occupant Survey

The occupant survey asks building occupants to rate building comfort. The occupant survey was developed by the New Buildings Institute and used in a recent U.S. Green Building Council study of LEED buildings. This is a web-based survey that takes less than 10 minutes to complete. It asks building occupants a series of questions to rate their comfort in four major categories: lighting, acoustics, temperature, and air quality as well as overall building comfort. The process used by the New Buildings Institute for conducting the survey is described in the ***Occupant Survey*** form, which includes information that needs to be provided to set up the occupant survey for your building.

Building Information Form

Building Name:

Address:

Substantial Completion Construction Date:

Occupancy Date:

Total Number of Occupants (typical values and maximum):

Building Size (conditioned square footage):

Percent Occupied (% occupied floor space, % vacant floor space; has this changed?)

Building Operation Schedule (hours of operation, after hours use, variation by season or in different parts of building):

Building Use (e.g. offices, labs, data center, classrooms, etc.; include square footage of each major building use):

Number of Floors:

Building Orientation/Configuration (describe or draw the building footprint):

Basic Construction Type (steel, concrete, wood frame, etc.):

Glazing Description (type, u-value, % of wall area):

Heating, Ventilating and Air Conditioning (HVAC) System Description (type and fuels):

Building Control System Description:

Lighting System Description (by major zones):

Domestic Hot Water System Description (type and fuel):

Other Energy Using Equipment/Systems Description (including number of personal computers):

LEED Features (Describe key sustainable features of the building; obtain LEED scorecard or WSSP scorecard)

Construction Cost (construction only cost (MACC)):

Total cost (MACC + Design/Construction Mgt.):

Design Team (architect, engineers):

Construction Team (general contractor, mechanical contractor, electrical contractor):

Facility Management and Operations Staff Questions Form

Please respond to the following questions. It may be helpful to obtain input from different facility management and operations staff. The POE Agent may go over your responses during the site visit or by phone.

1. How would you rate the design and construction process for this building?

   ☐ 5: Excellent

   ☐ 4: Good

   ☐ 3: Average

   ☐ 2: Fair

   ☐ 1: Poor

   What made the process go well or poorly?

2. How would you rate the building commissioning and start up process for the building?

   ☐ 5: Excellent

   ☐ 4: Good

   ☐ 3: Average

   ☐ 2: Fair

   ☐ 1: Poor

   What made the process go well or poorly?

3. How well is building performance meeting expectations?

   ☐ 5: Greatly exceeding expectations

   ☐ 4: Exceeding expectations

   ☐ 3: Meeting expectations

   ☐ 2: Falling a little short of expectations

   ☐ 1: Falling well short of expectations

   What aspects of building performance are exceeding expectations?

   What aspects of building performance are falling short of expectations?

4. How would you rate this building for ease of operation and maintenance compared to other buildings you work in?

   ☐ 5: Well above average

   ☐ 4: Above average

   ☐ 3: Average

   ☐ 2: Below average

   ☐ 1: Well below average

   From an operations and maintenance standpoint what do you like about the building?

   From an operations and maintenance standpoint what don't you like about the building?

5. How has the majority of building occupants responded to the building? Which of the following responses reflects how most occupants feel?

   ☐ 5: Very positive response

   ☐ 4: Positive response

   ☐ 3: Neutral response

   ☐ 2: Negative response

   ☐ 1: Very negative response

   What positive comments do you hear from occupants?

   What complaints do you hear from occupants?

6. Who maintains and operates the building?

7. How would you describe the operation and maintenance program for the building?

8. Is any building performance or operation information tracked? If yes, please describe (including the tools you use)?

Energy Star Portfolio Manager Benchmarking Form

You may already be using Energy Star Portfolio Manager to benchmark the energy and water use in your building. The following information provides background for those that may not be familiar with this tool. Energy Star Portfolio Manager is a tool developed by the U.S. Environmental Protection Agency that can be used for managing building energy and water consumption, rating building performance, and verifying and tracking attainment of performance goals. In the POE, we use this tool to calculate a performance rating on a scale of 1-100 that compares building energy performance to similar buildings nationwide. You can use this rating to assess how well your building is performing. For example, a score of 75 (Energy Star Certified) indicates your building has better energy performance than 75% of comparable buildings. The results of the analysis can be compared to predictions of your building's energy performance and can be used as a baseline for managing the energy and water use in your building and for setting performance goals.

To receive an ENERGY STAR rating, the gross floor area of the building must be comprised of 50% or more of one of the following space types:

- Bank/Financial Institution
- Courthouse
- Hospital (acute care and children's)
- Hotel
- K-12 School
- Medical Office
- Multifamily Housing
- Office
- Religious Worship
- Residence Hall/Dormitory
- Retail Store
- Supermarket
- Warehouse (refrigerated and non-refrigerated)
- Wastewater Treatment Plant

For buildings that do not fit within one of these categories, we will still use Portfolio Manager to analyze energy use and calculate a EUI, but will not be able to provide a building rating. Where possible we will identify other comparison data for benchmarking building performance.

Required Information:

The basic information required for the Energy Star Portfolio Manager includes:

- Building street address and year built
- Gross square feet and key operating characteristics by building type
- 12 consecutive months of utility bills for all fuel types used in the building

In addition to this basic information, space use attributes must be entered for each space type in the building. The attributes vary by space type, but generally include the following information:

- Gross floor area
- Weekly operating hours
- Number of workers on the main shift
- Number of personal computers
- Percent of floor area that is air conditioned
- Percent of floor area that is heated

Much of this information is collected on the ***Building Information*** form, but some additional details may need to be collected by the POE Agent to complete the Energy Star Portfolio Manager Benchmarking.

New Buildings Institute Occupant Survey Process Form

The New Buildings Institute[6] (NBI) occupant survey gathers perceptions of a building's functional comfort from those who work in it. This web-based survey takes less than 10 minutes to complete. Once the survey is set up for your particular facility, an introductory e-mail is sent to all building occupants explaining the survey purpose and giving the web-link for taking the online survey. You can preview the survey questions at the following link (This version of the online survey is for testing only, so feel free to answer the questions as part of your review):

http://www.surveymonkey.com/s.aspx?sm=5Ub9_2bKGamjMC4mLzFPeipw_3d_3d

Here are the steps in implementing your survey.

SET-UP

1. You and WSU/GA- WSU/GA will work with you to provide the following information to NBI:

a. Desired survey start date. NBI normally request at least 3 business days advance notice to set up a survey. Once begun, surveys typically remain available for two weeks.

b. Name of the building as you want it to show on the survey.

c. Total # of occupants to be surveyed (as basis for later computing the participation rate).

d. Copy of the introductory e-mail language you will send (so we can make sure the introductory page of the survey is consistent). Feel free to start with the example draft below.

e. If you have over 100 employees in the building, identify any named zones or areas of the building that you would like for sub-grouping results. The survey for *all* buildings will ask what floor the person works on. Let us know if our standard wording for floor choices (basement, 1, 2, . . . , 10) needs to be modified for your building.

2. NBI- When we receive the above, we'll set up your survey and email your unique survey link.

CONDUCTING THE SURVEY

3. You

a. Email the invitation to all occupants first thing the morning of the survey start date.

[6] The New Buildings Institute occupant survey was used for the pilot POE study and this proposed approach assumes a similar process will be used. This process may need to be adjusted to reflect arrangements made with the New Buildings Institute for ongoing use of their survey and to reflect the roles of WSU and GA in this process.

b. Send follow-up email 3-5 business days after survey start. This improves the response rate. We'll send you a reminder along with information on the initial number of responses.

RESULTS

4. NBI and WSU/GA - Your report will provide summary results for each of the key comfort dimensions, plus a listing of all write-in comments.

Let us know if you have questions. [contact information]

EXAMPLE INTRODUCTORY E-MAIL

Important Chance to Evaluate This Building

As someone who works in one of the region's premier green buildings, you can provide valuable feedback on this facility. We have asked New Buildings Institute to conduct a brief survey to better understand the functional comfort of this building for those who work in it. The results will be used as part of our ongoing monitoring and planning for better building performance and support the Washington Department of General Administration in evaluating the performance of new state buildings. As a regular occupant, you have first-hand information about how the building performs, and we appreciate your participation.

Please visit this web address before [date]: [link]
The survey takes less than 10 minutes to complete and is fully confidential.

If you have questions about participation in the survey, please contact _____.
Thank you in advance for your participation.

Follow Up and Deficiencies Correction Process

The POE Agent produces a POE report based on the information collected from the site visit, occupant survey, and benchmarking. This draft POE report is submitted to the primary facility contact for review and feedback along with the ***POE Follow Up Form***. The POE Agent has identified issues or deficiencies from the POE process that facility staff needs to address on this form.

Facility staff should review the POE report and identify things in the report they do not believe are accurate and they should suggest corrections. Facility staff should also identify how they intend to address issues raised in the POE report and how they intend to correct any deficiencies as described below. This information is recorded on the ***POE Follow Up Form*** and returned to the POE Agent.

The POE Agent makes any needed corrections to the POE report, documents any suggested corrections to the POE report that were not made and why, and comments on the plan by facility staff to address issues and correct deficiencies. The POE Agent records this information on the ***POE Follow Up Form*** and submits it along with the final POE report to facility staff. This completes the POE process. Facility staff is expected to take steps to address issues and correct deficiencies.

Deficiency and Issue Correction

The facility maintenance and operations staff will take the results of the POE report and develop a plan for correcting deficiencies should they occur. A deficiency is identified when over 20% of the occupants are dissatisfied (based on the results of the occupant survey). For the purposes of this effort and to satisfy LEED EQ credit 7.2 Thermal Comfort – Verification a plan for corrective action will be developed if 20% of occupants are dissatisfied with the thermal comfort of the building. Corrective action may include the following:

1. Check the temperature in areas of concern using a calibrated quick acting thermometer. Check at different times of the day and year. A temperature logging devise can also be used in this application to develop the data needed.
2. Check the energy management control system to ensure proper temperature settings are applied to the areas of concern.
3. Check the operation of air handling equipment to determine if equipment is operating properly and responding to the local thermostat.
4. Ensure the local thermostat is functioning properly. Recalibrate or replace as necessary.
5. Provide local radiant heaters to occupants as needed.

If the problems still persist the following may be needed:

1. Re-commission HVAC and controls.
2. Rebalance the HVAC system.
3. Replace malfunctioning HVAC equipment.
4. Add supplemental HVAC equipment to solve local problems. Add more zones and/or spot cooling/heating as necessary.

This will be an iterative process starting with the simple and no cost measures first and then checking back with dissatisfied occupants to determine if corrective actions have corrected the problem.

Similarly, facility staff needs to identify how they will respond to other issues raised in the POE process, such as excessive energy use or other building operation problems. This is particularly important if there are opportunities to reduce energy or water costs, to increase the life of equipment, or to improve the well being or productivity of occupants.

Follow Up Form

Issues and Deficiencies to Address (Completed by the POE Agent)
Please list issues and deficiencies identified in the POE process that need to be addressed by facility staff.

POE Draft Report (Completed by Facility Staff)
Do you believe the POE report is an accurate reflection of the performance of your facility?

- ☐ Yes
- ☐ Yes, with the following corrections
- ☐ No (please describe below)

Suggested Corrections
(If you prefer, you may identify corrections directly in the POE report and briefly describe the corrections here):

Explanation for a 'No' Response
(Please describe why you believe the POE report fails to accurately reflect the performance of your facility and convey why simple corrections cannot address your concerns):

Plan to Address Issues and Deficiencies (Completed by Facility Staff)
Please describe how you plan to address the issues and deficiencies identified by the POE agent.

POE Final Report (Completed by POE Agent)
Please respond to any comments and suggestions from facility staff and document why you did not make any suggested corrections to the POE report.

Comments on Plan to Address Issues and Deficiencies (Completed by POE Agent)
Do you believe the plan by facility staff to address issues and correct deficiencies is adequate?

- ☐ Yes
- ☐ Yes, with the following comments/suggestions
- ☐ No (please describe below)

Comments/Suggestions
(Briefly describe your comments/suggestions here):

Explanation for a 'No' Response
(Please describe why you believe the plan fails to address the issues and deficiencies and what you believe needs to be done):

Sample Post Occupancy Evaluation Report

ABC Elementary School
Good School District
July 2008

Introduction

This post occupancy evaluation reviews the performance of ABC Elementary School. It is based on a survey of occupants, analysis of energy use data, and a site visit and conversations with facility operations staff. The results can be used to assess whether the school is performing efficiently and in a way that meets the needs of its occupants.

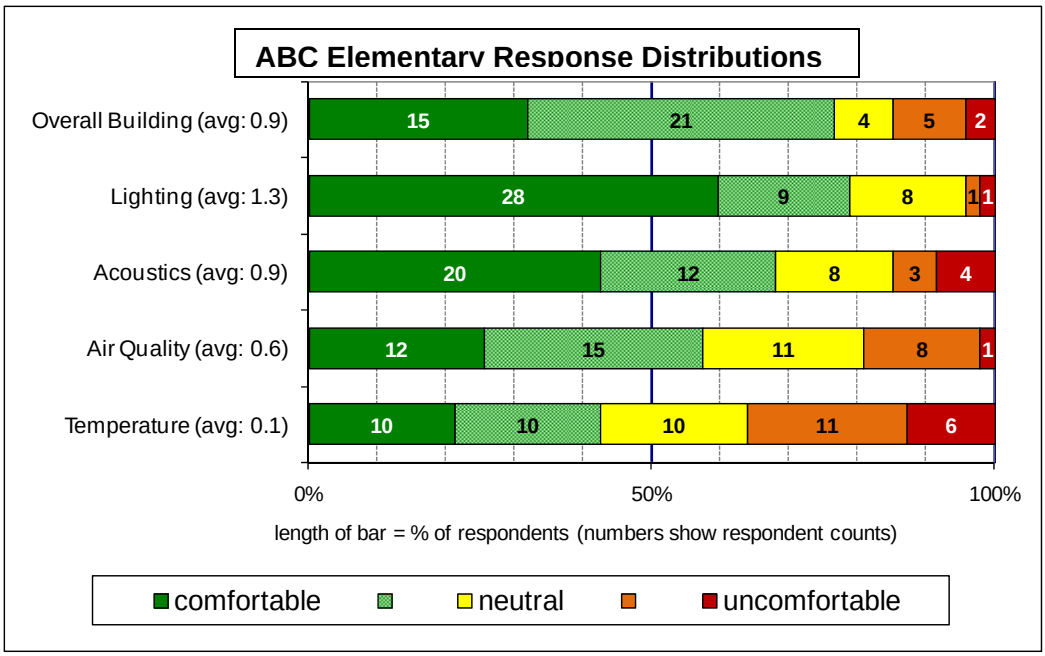
Building Description

ABC Elementary School began operation in late October 2005. The new building replaced the previous structure on the same site. This was a Washington Sustainable Schools Pilot Project. This school was projected to have a Washington Sustainable Schools score of 51 (40 is the minimum requirement; 96 is the maximum possible).

Building: ABC Elementary	
Location	xxxx, Washington
Constructed	2005
Size	64,926 (includes 6 portable classrooms)
Cost	$9,500,000
Occupancy: 2007/2008 School Year	
Students	497
Staff	65
School Hours	8:50-2:55; frequent community use
Building Features	
HVAC	Ground-source heat pumps (uses ground as heat sink/source); high efficiency heat pumps; variable speed pumps
Lighting	T-5 pendent fixtures with occupancy sensors
Daylighting	Light shelves on some exterior windows; lots of daylight in entry area
Water	Low flow fixtures; no cooling tower

Occupant Survey

Teachers and staff working at ABC Elementary participated in an on-line survey about building functional comfort from June 12 - 20, 2008. Forty-eight teachers and staff, 74% of those invited to participate, completed the survey. The results are positive and indicate that most teachers and staff find ABC Elementary a comfortable place to work.



Response distributions by major comfort dimension

Lighting comfort ratings are very good.

- Daylighting and natural light contribute to the overall positive ratings, which was reflected in a number of positive survey comments

Occupant comments about what they liked:

- The way it feels light and airy.
- The natural light available through the windows.
- It is bright and colorful. We also use natural lighting as much as possible.

Acoustics ratings are also relatively high.

- Noise ratings, even for noise from adjoining spaces, were mostly positive

Air Quality ratings are good.

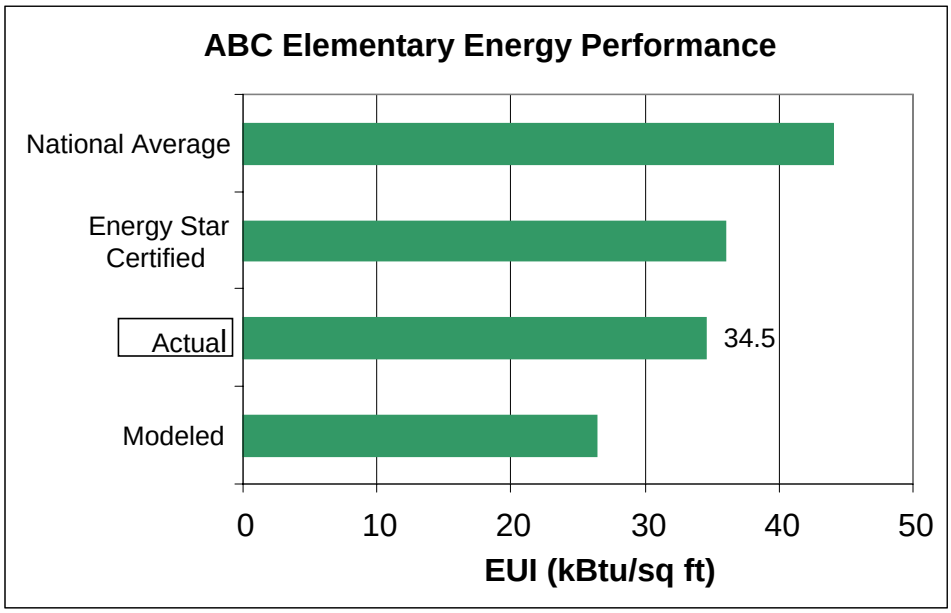
- Air quality controls received lower ratings than air movement and air freshness.

Temperature ratings are average.

- This is the only area that received a significant number of negative comments. Temperature fluctuations between hot and cold were the greatest concern.

Occupant comments about areas for improvement:
○ The heating system goes from one extreme to another. If that could be worked on that would be great
○ We are constantly dressing in layers because one minute it is too warm and the next too cold

Energy Performance



Annual Energy Use Intensity (EUI) Comparison

- ABC Elementary has a EUI of 34.5. It received an Energy Star Performance Rating of 77. This means that its energy use is better than 77% of comparable schools. Its energy use is 22% less than the average school.
- ABC Elementary has bettered the EUI for Energy Star Certification (in this case a EUI of 36).
- The Energy Life Cycle Cost Analysis (ELCCA) conducted for ABC Elementary used a computer model to estimate an annual EUI of 26. Actual energy use is often greater than modeled estimates because it is difficult to predict how the building will be used and operated.
- The EUI for the 2007/2008 school year is 11% less than the 2006/2007 school year.

Operations and Maintenance

These observations are based on the building site visit and interviews with facility staff.

- Building commissioning was conducted at ABC Elementary prior to occupancy. However, a ground source heat pump system is a complex system - it took 6-7 months to get the system running well. They had an expert on ground-source heat pumps come and make adjustments to the system. Once they got it running well, there have been no problems. Facility staff believes ABC Elementary is easier to operate and maintain than other schools in the district. Equipment is easy to access, the heat pumps are quality units, and boilers and chillers in other schools require more maintenance.
- Lessons learned include:
    - Make sure there is back-up heat for cold weather. The school does not have boilers, but uses a heat exchanger from the domestic hot water heater.
    - They had problems with the air flow switches not working. The duct heaters would not come on because the switches were not registering air flow. They had to be replaced.
    - They had water leaks because some pipe fittings on valves were over-tightened.
    - The sensors at the end of the geothermal loop were not connected, so the variable speed pumps were not receiving the proper pressure drop readings and the heat pumps were locking out because they were not getting enough flow.
- The school appears well-managed and maintained. Unneeded lights were off. Mechanical spaces were clean. The school looked nice and was not showing signs of wear and tear after two years of operation. Like many school districts, Good School District has limited facility operation and maintenance staff and does not have the resources for a preventive maintenance program at their schools. They do have an energy manager who tracks facility energy use.
- There have been some occupant complaints about being too hot or too cold. Facility staff believes this is partly due to a lack of understanding by occupants of how the control system works.

Key Conclusions and Recommendations

ABC Elementary School is performing well. Its energy use is better than comparable schools and occupant ratings of building comfort were positive, particularly regarding the daylighting and lighting. It took some time to get the ground-source heat pump system adjusted, but it is working well now. An energy manager tracks energy use, helping to maintain performance. However, the lack of a preventive maintenance program may negatively impact future building performance.

One area with potential for improvement is space temperature. Occupants complained about temperature fluctuations – going from one extreme to the other. Some adjustments to the HVAC controls, perhaps increasing temperature deadbands, might address this concern and also save some energy.

Appendices:

10. “Green Building – Job for the Future” DVD

Appendix 10

GREEN BUILDING – Jobs for the Future (DVD)

The Washington Department of Ecology, Washington Department of General Administration, Construction Center of Excellence (Renton Technical College), and WorkSource collaborated on a film that will inspire tomorrow's work-force to seek a green education in construction. The DVD discusses policy, market growth, and the need for a well-trained work-force to meet the needs unique to the emerging green economy. Green job opportunities in project management, general contracting, plumbing, electrical and more are addressed.

Leaders in Washington's construction, climate change, and green building sectors participated in the project including: Jay Manning (Director, Dept. of Ecology), Aaron Adelstein (President, BuiltGreen King/Snohomish Counties), Ash Awad (McKinstry), Kathleen O'Brien (O'Brien & Company), Rhys Roth (Climate Solutions), Cheryl Fambles (WorkSource Thurston County), labor leaders and others.

The project has hired a production team that has worked with organizations and companies including HBO, Sundance Films and Microsoft. The project was completed in February 2009.

Here is a link to view the GREEN BUILDING – Jobs for the Future DVD.

http://www.youtube.com/profile?v=rr0IAWO9lnk&user=washingtongovernment

Agency/University Sustainable Building Reports

Sustainable Building Report Template

Reported by: *Clara Simon, Sustainability Manager, Capital Projects Office*
Phone: 206-543-2258
E-mail: simonch@uw.edu

Overview

On University of Washington (UW) properties, the UW has certified 11 projects: Achieving 1 Certified; 3 Silver; and 7 Gold ratings -- 3 of these projects were State of Washington funded projects resulting in 1 Silver and 2 Gold certified projects. The UW has 21 active LEED projects on the Seattle, Tacoma and Bothell campuses, with 14 of these projects to be "designed, constructed and operated" within the requirements of RCW 39.35D – High Performance Public Buildings -- to meet at least a LEED Silver rating. It is anticipated that all of the state funded LEED projects will certify at a Gold rating level. The University's "Building Restoration & Renewal Prioritization Study" of 2004, established a plan to renew and renovate fifteen significant buildings on the Seattle Campus. The plan recognizes the deteriorating condition that threatened the UW's ability to deliver core campus functions in teaching, research and public service of more than 900,000 gross square feet, which houses more than 40 academic programs. Projects below with an "*" are identified as part of the "Restore the Core" program.

PROJECTS - CERTIFIED	Phase	Occupancy Date	LEED Version	Certification Rating
Seattle Campus				
1. * Floyd & Delores Jones Playhouse Theatre	Occupied	12/11/2008	NC v2.1	Gold
2. * Clark Hall	Occupied	6/15/2009	NC v2.1	Gold

Projects - Registered	Phase	Occupancy Date	LEED Version	Anticipated Rating	Comment
Seattle Campus					
1. * Savery Hall	Occupied	9/24/2009	NC v2.2	Gold	
2. * Denny Hall	Design Development	N/A	NC v2.2	Gold	Funding On Hold
3. * Lewis Hall	Design Development	N/A	NC v2.2	Gold	Funding On Hold
4. * Balmer Hall	Construction Documents	5/1/2012	NC v2.2	Gold	
5. Molecular Engineering	Construction	1/30/2012	NC v2.2	Gold	
6. Ethnic Cultural Center	Design Development	3/1/2012	NC v2.2	Gold	
7. Burke Museum	Pre-Design	10/1/2015	NC v2.2	Gold	

8. House of Knowledge	Pre-Design	N/A	NC v3.0	Gold
9. * Anderson Hall	Pre-Design	N/A	NC v3.0	Gold
Tacoma Campus				
10. William W. Philip Hall	Occupied	10/7/2008	NC v2.2	Gold
11. Joy Building	Construction	1/31/2011	NC v2.2	Gold
12. Jefferson Building	Construction Documents	2/22/2012	NC v2.2	Gold
Bothell Campus				
13. Phase 3	Pre-Design	11/30/2012	NC v3.0	Gold

* Restore the Core Projects

Training Efforts

1) LEED APs on Staff: The UW currently has 43 LEED APs on staff, with 39 working in the areas of capital planning, capital projects, engineering, facilities and maintenance. Four LEED APs are professors in the areas of architecture and construction management.
2) Hiring LEED APs on Projects: During LEED projects, design teams and contractors are selected with LEED AP credentialing and experience as one of the selection criteria.
3) Training Construction Teams: Contractors are required to provide LEED training to subcontractors during the construction process.

Lessons Learned

1. Commission building meters – learned through this reporting process.
2. Integrate LEED lessons learned by sharing copies of LEED documentation with design teams and contractors between projects.
3. Require in construction specifications that the contractor's subcontractors complete a LEED product reporting form, which channels LEED product information and guides specification review.
4. LEED appeal fees are to be paid by the party responsible for documenting LEED online credit documentation.

Recommended Improvements to the Legislation

1. An incentive for the state to pay back LEED consultant and LEED registration fees when projects become certified. This is to overcome the prevailing negativity that LEED projects are using funds that could otherwise be applied to the project.
2. An additional financial incentive for projects that achieve a rating above Silver and Gold.

****

Sustainable Building Report
University of Washington
June 29, 2010

Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
stuart.simpson@ga.wa.gov & sustainableBA@ga.wa.gov

Due date: July 9, 2010

This will satisfy some of the annual reporting requirements dictated by RCW 39.35D.

Overview

Washington State University remains committed to sustainable campus growth, and responsible development. In compliance with the requirements of the State of Washington, WSU endeavors to complete new building construction to a minimum of LEED Silver Certification as appropriate. This report covers construction or design completed in 2009 and planning efforts for 2010 and beyond.

Projects

Olympia Avenue Student Housing, **WSU Pullman** - Substantial Completion was obtained in August of 2009. This project is the first new dormitory constructed on the Pullman campus since 1972. It has met the criteria for, and will obtain LEED Silver Certification. This project was funded by the sale of bonds by WSU Housing and Residential Life. As such it was not required to obtain LEED certification by legislation but chosen as a significant representation of WSU's commitment to sustainable design.

Undergraduate Classroom Building, WSU Vancouver – Completed August of 2009, LEED Silver status achieved. –This is the first LEED Project performed at WSU Vancouver. The Undergraduate Classroom Building is a project prioritized by the 2005 Legislature to support WSU Vancouver's transition to a four year university. The 58,000 square foot facility provides classrooms of various sizes, seminar rooms, computer lab spaces, informal student study spaces, faculty offices and work stations, and associated support spaces. The major program located in the building is the Education Department. The Facility was constructed under the traditional design, bid, build method of project delivery. This facility will obtain LEED Silver Certification.

Engineering and Computer Science Building, WSU Vancouver - Funded under the previous name Applied Technology Center; A GC/CM project currently under construction this 56,000 GSF facility sites on the Mt. St. Helens Corridor to provide research and teaching space in Computer Sciences and Electrical Engineering. The design is targeting a LEED Silver rating, however, the project team is exploring the option to pursue some additional credits for a potential LEED Gold certification.

Global Animal Health, WSU Pullman - Scheduled for construction late in 2010, this GC/CM project, which is designed to support the School for Global Animal Health's missions of infectious disease research and animal diagnostics. The 62,000 square foot three-story facility will house two floors of BSL2 research laboratory space, a 5,000 square foot BSL3 laboratory supporting both disease research and surveillance functions, and an administrative wing containing conference rooms, administrative offices, and the eventual connection to the phase 2 facility. The building will house 100 scientific staff. The facility will utilize state-of-the-art energy management and sustainability strategies, and is targeting a LEED Silver certification.

Training Efforts

WSU Capital Planning and Development now have twenty professional staff members who are LEED Accredited Professionals. Currently, regular monthly Sustainability Lunch presentations are held by staff and are attended by industry representatives, academics, researchers and professionals to discuss available products and services and sustainable practices.

Project personnel are working with University researchers to explore ways of using pervious concrete applications on the Palouse. Our heavy clay soils don't percolate and as such previous discussions regarding permeable pavement have not developed into project use. We now have a project underway which will utilize pervious concrete pavement on a large scale in an attempt to help slow the rate of storm-water runoff on site and improve the quality of the downstream flow. Extensive subsurface drainage had existed within the project creating the first opportunity to incorporate and begin to develop the related benefits to storm water management with pervious pavement installations.

Lessons Learned

LEED has allowed our professional design team to probe strategies and explore creative solutions that have previously been overlooked or considered unattainable. It has also created a "sustainable design" mindset that extends beyond projects addressed in the legislation. Staff have embraced the concept of high performance development. The biggest constraints to applying innovation often come down to funding.

Reported by: Keith Bloom
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Sustainable Building Report

Reported by: Ed Simpson
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Overview

Sustainable Building Report

Overview

Western Washington University has consistently striven to be at the forefront of sustainable practices in Higher Education. Western was the first Higher Education institution in the country to purchase 100% of its electricity in the form of renewable energy through Renewable Energy Credits (RECs). Despite intense development in the area of campus REC purchases nationally, WWU is still listed in the #8 slot for purchase of green power. Recently, WWU students have approved an additional funding stream (~$70k/quarter) to be used for campus efficiency and conservation projects.

In 2004, Western dedicated the first LEED certified Recreation Center (w/ Pool). This certification was the direct result of a request by the Associated Students who were funding the project by a quarterly fee on all students at Western. The LEED certification of the Wade King Student Recreation Center encouraged staff project managers at Western to require LEED design elements in the Academic Instructional Center (AIC) even though the state had not passed the LEED silver requirement for all new construction. As a consequence, when the state did pass the requirement Western was able to submit for and receive LEED certification even though, technically, the construction was 'grandfathered' and not required to be LEED certified at any level.

Western is entering its fifth year with a cross-campus sustainability committee with representation on staff, student and faculty levels. 2010 also marks the fourth year of the Office of Sustainability, the coordinating body of campus sustainability measures. Both entities are committed to making Western a national leader in campus sustainability in operations and academics. Recently the Office of Sustainability presented to, and received acceptance from, the WWU Board of Trustees the 2010 Western Climate Action Plan. This guidance plan specifies a 36% reduction by 2020 and a carbon-neutral campus by 2050. Additionally the campus has recently funded the "10x12" Initiative aimed at producing a 10% drop in utility expenditures by the end of 2012. Real-time energy use monitoring devices are currently being installed at a number of campus buildings which will assist in assessing effectiveness of various strategies on behavioral and operational levels.

Projects

Wade King Student Recreation Center – 2004 – LEED Certified

Academic Instruction Center – 2009 – LEED Certified.

Buchanan Towers Addition (Student Residence Hall) – In construction – Construction completion scheduled for fall 2010 – Targeted LEED Silver (currently the project has a good chance at Gold).

Miller Hall Renovation – In construction (GC/CM approved project) – Construction Completion scheduled for December 2011 – Targeting LEED Silver.

Training Efforts

All of our Facilities Design and Construction Management staff have had at least some introductory training on LEED and building sustainability. 12 of the staff have had USGBC LEED training with 5 of these individuals receiving LEED Certification.

Lessons Learned

The challenge this year is to keep educating construction workers that all materials incorporated into the work must be reviewed and approved to assure that they do not install products that jeopardize LEED points. On one project this year a subcontractor was using an adhesive that was approved, but when they ran out of the material they began using a different product without notifying the project management team. By the time the change was discovered it was too late and those potential LEED points were lost. LEED status is a standing weekly project meeting agenda item so that issues such as this are brought up and the importance of the LEED process can be made known to all project participants.

Western continues to strengthen its process for assuring LEED certification goals on projects.

Recommended Improvements to the Legislation

None

Sustainable Building Report

August 24, 2010

Reported By: K.C. Traver, Director of Construction & Planning Services

Phone: (509) 359-4333
E-mail: ktraver@ewu.edu

Overview

EWU currently has five (5) major projects in various stages of planning, design, construction, or completed status which are incorporating the principals of Sustainable Building Design. All of the projects have or are intended to achieve LEED Silver, as a minimum. The new Student Recreation Center is not a state funded facility but was designed & constructed in accordance with the practice of LEED certification. The pending design request for the new University Science Center, Science I, commits to pursuit of the highest LEED standard achievable to ensure the science programs taught at EWU are modeled by our actions and illustrate the university's commitment to sustainable communities and climate neutrality.

Project statistics are as follows:

Project Title	Status
Hargreaves Hall Renovation	Completed March 2010; certified LEED Gold.
Patterson Hall Renovation	Phase I construction in progress. Final completion, with phase II funding, is scheduled for March 2013. LEED Gold anticipated.
Martin/Williamson Hall Remodel	Pre-design is complete. Project design has been deferred until 2013 with construction in 2015. LEED Gold is anticipated.
Student Recreation Center	Construction was complete September 2008; certified LEED Gold.
University Science Center, Science I	Request for design funds included in 2011-13 capital budget request. LEED GOLD anticipated.

Project Details

Hargreaves Hall Renovation

EWU Project Manager	Jim Moeller
Architect	Madsen Mitchel Evenson & Conrad,pllc - Spokane
LEED Consultant	Kelly A. Karmel, AIA, LEED AP - Design Balance – Missoula, MT

Checklist attached

Patterson Hall Renovation

EWU Project Manager	Jim Moeller
Architect	NAC Architecture - Spokane
LEED Professional	Dana Harbaugh, AIA, LEED® AP, Principal, NAC Architecture

Checklist attached

Martin/Williamson Hall Renovation

EWU Project Manager	Troy Bester
Architect	Opsis Architecture - Portland
LEED Professional	Alec Holser, AIA, LEED AP

Checklist attached

Student Recreation Center

EWU Project Manager	Troy Bester
Architect	Sink Combs Dethlefs – Denver, CO
LEED Consultant	Kelly A. Karmel, AIA, LEED AP - Design Balance – Missoula, MT

Scorecard attached

University Science Center, Science I

EWU Project Manager	Troy Bester
Architect	LMN Architects - Seattle
LEED Professional	LMN Architects (pre-design)

Checklist attached

Training Efforts

- Eastern Washington University, Facilities & Planning, will apply for organizational membership in the U.S. Green Building Council, when the current budget climate improves.

- The Construction & Planning Services Directorate has committed to obtaining LEED accreditation for all engineers, architects, and project managers, a total of 8 individuals. This is a deferred requirement due to current budget climate.

Lessons Learned

A LEED Silver standard for major projects is readily achievable. Sustainable building practices are becoming increasingly more cost effective as the practice becomes more widespread.

Recommended Improvements to the Legislature

Consider providing incentives for those state agencies whose major building projects achieve a LEED standard of Gold or higher.

END OF REPORT

LEED-NC

LEED-NC Version 2.2 Registered Project Checklist

Hargreaves Hall Renovation
Eastern Washington University

Yes	?	No			
9	3	2	**Sustainable Sites**		14 Points
Y			Prereq 1	**Construction Activity Pollution Prevention**	Required
1			Credit 1	**Site Selection**	1
	1		Credit 2	**Development Density & Community Connectivity**	1
		1	Credit 3	**Brownfield Redevelopment**	1
1			Credit 4.1	**Alternative Transportation**, Public Transportation Access	1
1			Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
		1	Credit 4.3	**Alternative Transportation**, Low-Emitting and Fuel-Efficient Vehicles	1
1			Credit 4.4	**Alternative Transportation**, Parking Capacity	1
	1		Credit 5.1	**Site Development,** Protect of Restore Habitat	1
1			Credit 5.2	**Site Development,** Maximize Open Space	1
1			Credit 6.1	**Stormwater Design,** Quantity Control	1
1			Credit 6.2	**Stormwater Design,** Quality Control	1
1			Credit 7.1	**Heat Island Effect,** Non-Roof	1
1			Credit 7.2	**Heat Island Effect,** Roof	1
	1		Credit 8	**Light Pollution Reduction**	1

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

Yes	?	No			
6	3	1	**Energy & Atmosphere**		17 Points
Y			Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required
Y			Prereq 2	**Minimum Energy Performance**	Required
Y			Prereq 3	**Fundamental Refrigerant Management**	Required
4	1		Credit 1	**Optimize Energy Performance**	1 to 10
		1	Credit 2	**On-Site Renewable Energy**	1 to 3
1			Credit 3	**Enhanced Commissioning**	1
	1		Credit 4	**Enhanced Refrigerant Management**	1
1			Credit 5	**Measurement & Verification**	1
	1		Credit 6	**Green Power**	1

continued...

Yes	?	No			
8	3	2	**Materials & Resources**		13 Points
Y			Prereq 1	**Storage & Collection of Recyclables**	Required
1			Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1
1			Credit 1.2	**Building Reuse**, Maintain 100% 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**, 10% (post-consumer + ½ pre-consumer)	1
	1		Credit 4.2	**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1
1			Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured Regiona	1
1			Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured Regiona	1
1			Credit 6	**Rapidly Renewable Materials**	1
	1		Credit 7	**Certified Wood**	1

Yes	?	No			
13	2		**Indoor Environmental Quality**		15 Points
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
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
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

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

Yes	?	No		
41	12		**Project Totals** (pre-certification estimates)	69 Points

Certified 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points

LEED-NC

LEED-NC Version 2.2 Registered Project Checklist

EWU Patterson Hall Renovation and Addition, 111-06139 - 4Fg
Cheney, Washington

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

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

Yes	?	No			
7			**Energy & Atmosphere**		**17** Points
Y			Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required
Y			Prereq 2	**Minimum Energy Performance**	Required
Y			Prereq 3	**Fundamental Refrigerant Management**	Required
4			Credit 1	**Optimize Energy Performance**	1 to 10
		N	Credit 2	**On-Site Renewable Energy**	1 to 3
1			Credit 3	**Enhanced Commissioning**	1
1			Credit 4	**Enhanced Refrigerant Management**	1
1			Credit 5	**Measurement & Verification**	1
		N	Credit 6	**Green Power**	1

continued...

Patterson Hall Checklist

Yes	?	No			
7			**Materials & Resources**		**13** Points
Y			Prereq 1	**Storage & Collection of Recyclables**	Required
		N	Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1
		N	Credit 1.2	**Building Reuse**, Maintain 100% of Existing Walls, Floors & Roof	1
		N	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
		N	Credit 3.1	**Materials Reuse**, 5%	1
		N	Credit 3.2	**Materials Reuse**,10%	1
1			Credit 4.1	**Recycled Content**, 10% (post-consumer + ½ pre-consumer)	1
1			Credit 4.2	**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1
1			Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured Regic	1
1			Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured Regic	1
		N	Credit 6	**Rapidly Renewable Materials**	1
1			Credit 7	**Certified Wood**	1

Yes	?	No			
11			**Indoor Environmental Quality**		**15** Points
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
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
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
		N	Credit 6.2	**Controllability of Systems**, Thermal Comfort	1
1			Credit 7.1	**Thermal Comfort**, Design	1
		N	Credit 7.2	**Thermal Comfort**, Verification	1
		N	Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1
		N	Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1

Yes	?	No			
4			**Innovation & Design Process**		**5** Points
1			Credit 1.1	**Innovation in Design**: Green Educational Features in Building	1
1			Credit 1.2	**Innovation in Design**: Green Housekeeping Plan	1
1			Credit 1.3	**Innovation in Design**: Dedicated Outside Air System	1
	?		Credit 1.4	**Innovation in Design**:	1
1			Credit 2	**LEED® Accredited Professional**	1

Yes	?	No		
42			**Project Totals** (pre-certification estimates)	**69** Points

Certified 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points

LEED-NC

LEED-NC Version 2.2 Registered Project Checklist

Eastern Washington University Martin/Williamson Hall
Cheney, Washington

Yes	?	No			
8	**5**	**1**	**Sustainable Sites**		**14** Points
Y			Prereq 1	**Construction Activity Pollution Prevention**	Required
Y			Credit 1	**Site Selection**	1
	Y?		Credit 2	**Development Density & Community Connectivity**	1
		N	Credit 3	**Brownfield Redevelopment**	1
Y			Credit 4.1	**Alternative Transportation**, Public Transportation Access	1
Y			Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
Y			Credit 4.3	**Alternative Transportation**, Low-Emitting and Fuel-Efficient Vehicles	1
Y			Credit 4.4	**Alternative Transportation**, Parking Capacity	1
	Y?		Credit 5.1	**Site Development,** Protect of Restore Habitat	1
	Y?		Credit 5.2	**Site Development,** Maximize Open Space	1
Y			Credit 6.1	**Stormwater Design,** Quantity Control	1
	Y?		Credit 6.2	**Stormwater Design,** Quality Control	1
	Y?		Credit 7.1	**Heat Island Effect,** Non-Roof	1
Y			Credit 7.2	**Heat Island Effect,** Roof	1
Y			Credit 8	**Light Pollution Reduction**	1

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

Yes	?	No			
6	**2**		**Energy & Atmosphere**		**17** Points
Y			Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required
Y			Prereq 2	**Minimum Energy Performance**	Required
Y			Prereq 3	**Fundamental Refrigerant Management**	Required
Y			Credit 1	**Optimize Energy Performance**	1 to 10
	Y?		Credit 2	**On-Site Renewable Energy**	1 to 3
Y			Credit 3	**Enhanced Commissioning**	1
	Y?		Credit 4	**Enhanced Refrigerant Management**	1
Y			Credit 5	**Measurement & Verification**	1
Y			Credit 6	**Green Power**	1

continued...

Yes	?	No			
7	4	2	**Materials & Resources**		13 Points
Y			Prereq 1	**Storage & Collection of Recyclables**	Required
Y			Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1
	Y?		Credit 1.2	**Building Reuse**, Maintain 100% of Existing Walls, Floors & Roof	1
		N	Credit 1.3	**Building Reuse**, Maintain 50% of Interior Non-Structural Elements	1
Y			Credit 2.1	**Construction Waste Management**, Divert 50% from Disposal	1
Y			Credit 2.2	**Construction Waste Management**, Divert 75% from Disposal	1
	Y?		Credit 3.1	**Materials Reuse**, 5%	1
		N	Credit 3.2	**Materials Reuse**,10%	1
Y			Credit 4.1	**Recycled Content**, 10% (post-consumer + ½ pre-consumer)	1
Y			Credit 4.2	**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1
Y			Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured Regior	1
	Y?		Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured Regior	1
	Y?		Credit 6	**Rapidly Renewable Materials**	1
Y			Credit 7	**Certified Wood**	1

Yes	?	No			
7	7	1	**Indoor Environmental Quality**		15 Points
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
Y			Credit 1	**Outdoor Air Delivery Monitoring**	1
	N?		Credit 2	**Increased Ventilation**	1
	Y?		Credit 3.1	**Construction IAQ Management Plan**, During Construction	1
Y	Y?		Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
Y			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
Y			Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1
Y			Credit 4.3	**Low-Emitting Materials**, Carpet Systems	1
Y			Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1
	Y?		Credit 5	**Indoor Chemical & Pollutant Source Control**	1
	Y?		Credit 6.1	**Controllability of Systems**, Lighting	1
	Y?		Credit 6.2	**Controllability of Systems**, Thermal Comfort	1
	Y?		Credit 7.1	**Thermal Comfort**, Design	1
Y			Credit 7.2	**Thermal Comfort**, Verification	1
	Y?		Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1
		N	Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1

Yes	?	No			
5			**Innovation & Design Process**		5 Points
Y			Credit 1.1	**Innovation in Design**: Education about building systems	1
Y			Credit 1.2	**Innovation in Design**: Divert 95% of construction waste	1
Y			Credit 1.3	**Innovation in Design**: Green cleaning program	1
Y			Credit 1.4	**Innovation in Design**: Enhanced acoustical performance	1
Y			Credit 2	**LEED® Accredited Professional**	1

Yes	?	No		
35	20	4	**Project Totals** (pre-certification estimates)	69 Points

Certified 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points

39	4	26	**Total Project Score**	EWU Sport and Recreation Center 4/20/06	Possible Points 69

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

Sustainable Sites — Possible Points 14

Y	?	N			
Y			Prereq 1	**Erosion & Sedimentation Control**	
1			Credit 1	**Site Selection**	1
		1	Credit 2	**Urban Redevelopment**	1
		1	Credit 3	**Brownfield Redevelopment**	1
1			Credit 4.1	**Alternative Transportation**, Public Transportation Access	1
1			Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
		1	Credit 4.3	**Alternative Transportation**, Alternative Fuel Refueling Stations	1
1			Credit 4.4	**Alternative Transportation**, Parking Capacity	1
	1		Credit 5.1	**Reduced Site Disturbance**, Protect or Restore Open Space	1
1			Credit 5.2	**Reduced Site Disturbance**, Development Footprint	1
		1	Credit 6.1	**Stormwater Management**, Rate and Quantity	1
		1	Credit 6.2	**Stormwater Management**, Treatment	1
1			Credit 7.1	**Landscape & Exterior Design to Reduce Heat Islands**, Non-Roof	1
1			Credit 7.2	**Landscape & Exterior Design to Reduce Heat Islands**, Roof	1
1			Credit 8	**Light Pollution Reduction**	1

Water Efficiency — Possible Points 5

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

Energy & Atmosphere — Possible Points 17

Y	?	N			
Y			Prereq 1	**Fundamental Building Systems Commissioning**	
Y			Prereq 2	**Minimum Energy Performance**	
Y			Prereq 3	**CFC Reduction in HVAC&R Equipment**	
2			Credit 1.1	**Optimize Energy Performance**, 20% New / 10% Existing	2
1	1		Credit 1.2	**Optimize Energy Performance**, 30% New / 20% Existing	2
		2	Credit 1.3	**Optimize Energy Performance**, 40% New / 30% Existing	2
		2	Credit 1.4	**Optimize Energy Performance**, 50% New / 40% Existing	2
		2	Credit 1.5	**Optimize Energy Performance**, 60% New / 50% Existing	2
		1	Credit 2.1	**Renewable Energy**, 5%	1
		1	Credit 2.2	**Renewable Energy**, 10%	1
		1	Credit 2.3	**Renewable Energy**, 20%	1
1			Credit 3	**Additional Commissioning**	1
1			Credit 4	**Ozone Depletion**	1
	1		Credit 5	**Measurement & Verification**	1
1			Credit 6	**Green Power**	1

Materials & Resources — Possible Points 13

Y	?	N			
Y			Prereq 1	**Storage & Collection of Recyclables**	
		1	Credit 1.1	**Building Reuse**, Maintain 75% of Existing Shell	1
		1	Credit 1.2	**Building Reuse**, Maintain 100% of Existing Shell	1
		1	Credit 1.3	**Building Reuse**, Maintain 100% Shell & 50% Non-Shell	1
1			Credit 2.1	**Construction Waste Management**, Divert 50%	1
1			Credit 2.2	**Construction Waste Management**, Divert 75%	1
		1	Credit 3.1	**Resource Reuse**, Specify 5%	1
		1	Credit 3.2	**Resource Reuse**, Specify 10%	1
1			Credit 4.1	**Recycled Content**, Specify 5%	1
1			Credit 4.2	**Recycled Content**, Specify 10%	1
1			Credit 5.1	**Local/Regional Materials**, 20% Manufactured Locally	1
1			Credit 5.2	**Local/Regional Materials**, of 20% Above, 50% Harvested Locally	1
		1	Credit 6	**Rapidly Renewable Materials**	1
1			Credit 7	**Certified Wood**	1

Indoor Environmental Quality — Possible Points 15

Y	?	N			
Y			Prereq 1	**Minimum IAQ Performance**	
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	
1			Credit 1	**Carbon Dioxide** (CO_2) **Monitoring**	1
1			Credit 2	**Increase Ventilation Effectiveness**	1
1			Credit 3.1	**Construction IAQ Management Plan**, During Construction	1
1			Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
1			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
1			Credit 4.2	**Low-Emitting Materials**, Paints	1
1			Credit 4.3	**Low-Emitting Materials**, Carpet	1
1			Credit 4.4	**Low-Emitting Materials**, Composite Wood	1
1			Credit 5	**Indoor Chemical & Pollutant Source Control**	1
		1	Credit 6.1	**Controllability of Systems**, Perimeter	1
		1	Credit 6.2	**Controllability of Systems**, Non-Perimeter	1
1			Credit 7.1	**Thermal Comfort**, Comply with ASHRAE 55-1992	1
1			Credit 7.2	**Thermal Comfort**, Permanent Monitoring System	1
		1	Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1
1			Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1

Innovation & Design Process — Possible Points 5

Y	?	N			
1			Credit 1.1	**Innovation in Design - Green Education**	1
1			Credit 1.2	**Innovation in Design: Green Housekeeping**	1
	1		Credit 1.3	**Innovation in Design: Water efficiency > 40%**	1
1			Credit 1.4	**Innovation in Design: Local regional > 40%**	1
1			Credit 2	**LEED™ Accredited Professional**	1

Sustainable Design Charette Summary

LEED® Certification: Under RCW 39.35D Science I will be designed to achieve a Leadership in Energy and Environmental Design (LEED®) certification at the silver level or higher. During the predesign study an eco-charrette was conducted that was intended to determine potential sustainable strategies for the project. Using LEED® 3.0 NC, an initial checklist was established to determine the LEED® credits that might be achieved through sustainable strategies. The following table represents how the project can meet or exceed the minimum LEED® silver standard.

16	9	1	**Sustainable Sites**	Possible Points: 26
Yes	?	No		
Y			Prereq 1	Construction Activity Pollution Prevention
1			Credit 1	Site Selection
	5		Credit 2	Development Density & Community Connectivity
		1	Credit 3	Brownfield Redevelopment
6			Credit 4.1	Alternative Transportation - Public Transportation Access
1			Credit 4.2	Alternative Transportation - Bicycle Storage & Changing Rooms
3			Credit 4.3	Alternative Transportation - Low-Emitting & Fuel-Efficient Vehicles
2			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

4	6		**Water Efficiency**	Possible Points: 10
Yes	?	No		
Y			Prereq 1	Water Use Reduction - 20% Reduction
2	2		Credit 1	Water Efficient Landscaping
	2		Credit 2	Innovative Wastewater Technologies
2	2		Credit 3	Water Use Reduction

12	15	8	**Energy & Atmosphere**	Possible Points: 35
Yes	?	No		
Y			Prereq 1	Fundamental Commissioning of Building Energy Systems
Y			Prereq 2	Minimum Energy Performance
Y			Prereq 3	Fundamental Refrigerant Management
8	7	4	Credit 1	Optimize Energy Performance
	3	4	Credit 2	On-Site Renewable Energy
2			Credit 3	Enhanced Commissioning
2			Credit 4	Enhanced Refrigerant Management
	3		Credit 5	Measurement & Verification
	2		Credit 6	Green Power

5	2	7	**Materials & Resources**	Possible Points: 14
Yes	?	No		
Y			Prereq 1	Storage & Collection of Recyclables

		3	Credit 1.1	Building Reuse - Maintain Existing Walls, Floors & Roof
		1	Credit 1.2	Building Reuse - Maintain 50% of Interior Non-Structural Elements
2			Credit 2	Construction Waste Management
		2	Credit 3	Materials Reuse
2			Credit 4	Recycled Content
1	1		Credit 5	Regional Materials
		1	Credit 6	Rapidly Renewable Materials
	1		Credit 7	Certified Wood

12	3		**Indoor Environmental Quality**	**Possible Points: 15**
Yes	?	No		
Y			Prereq 1	Minimum IAQ Performance
Y			Prereq 2	Environmental Tobacco Smoke Control
1			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 – Flooring 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
	1		Credit 8.2	Daylight & Views, Views

6			**Innovation & Design Process**	**Possible Points: 6**
Yes	?	No		
1			Credit 1.1	Innovation in Design: Green Housekeeping
1			Credit 1.2	Innovation in Design: Specific Title TBD
1			Credit 1.3	Innovation in Design: Specific Title TBD
1			Credit 1.4	Innovation in Design: Specific Title TBD
1			Credit 1.5	Innovation in Design: Specific Title TBD
1			Credit 2	LEED® Accredited Professional

6			**Regional Priority Credits**	**Possible Points: 4**
Yes	?	No		
1			Credit 1.1	Regional Priority – SSc1
	1		Credit 1.2	Regional Priority – WEc1
	1		Credit 1.3	Regional Priority – WEc3
	1		Credit 1.4	Regional Priority – MRc7

56	38	16	**Total**	**Possible Points: 110**

Certified 40 to 49 pts Silver 50 to 59 pts Gold 60 to 79 pts Platinum 80 to 110 pts

Sustainable Building Report

Reported by: Robert J. Tosch, AVP for Facilities, Central Washington University Phone: (509) 963-2916
E-mail: toschr@cwu.edu

Overview

Central Washington University's Campus Facilities Master Plan 2005 sets a key vision for the campus to "take progressive measures toward environmental sustainability. Sustainability is defined as the ability to meet the needs of the present without compromising the ability of the future generations to meet their own needs. Sustainable actions will be taken to improve the relationship between humans and their natural environment, to amplify the beauty of the campus, to decrease resource expenditure and depletion, and to serve as a source of pride for the university community at large. Actions taken will help teach students and citizens learn sustainability by practice rather than words." CWU is committed to resource conservation and another key objective stated in our master plan is to "Develop with resource conservation measures in place. Work toward Leadership in Energy and Environmental Design (LEED) certification for all new and renovated facilities, as funds permit." CWU's Facilities Management Department has been successful in energy conservation practices, winning the Governor's Excellence in Energy Conservation award in 2004. Prior to State requirements for LEED Silver, CWU planned to pursue LEED silver for the Hogue Technology Renovation, as stated in the Predesign Manual completed in June 2004.

Projects	Year Completed	Size in GSF	LEED Level	Status
Dean Hall Renovation	2009	79,553	LEED NC Gold	In Review
Hogue Technology Addition	In Construction	49,280	LEED NC Gold	Goal

Training Efforts

Facilities Management encourages and supports training to its staff to increase the quality and depth of a sustainable future and implementation. Project management staff have attended LEED certification training, 2 have become LEED APs, and others are pursuing LEED accreditation. Facilities held several LEED orientation workshops to familiarize staff with LEED.

Lessons Learned

Start early. Encourage stakeholder training in sustainable design. Hire consultants well versed in sustainable design. Identify sustainable champion for project. Utilize eco-charrettes. Create, follow thru and frequently review LEED checklists and status. Commission building systems, and bring the commissioning agent in early. Be flexible. Innovate.

Recommended Improvements to the Legislation

- Consider the challenge and applicability in achieving LEED silver certification for renovation projects, and provide additional LEED funding in such cases.

- Create website to share state LEED documentation.

****

Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
ssimpso@ga.wa.gov & GAsustainableBA@ga.wa.gov

Due date: July 9, 2010

This will satisfy annual reporting requirements dictated by RCW 39.35D.

Sustainable Building Report

Reported by: *Azeem Hoosein*
Phone: 360 -867 - 6041
E-mail: hooseina@evergreen.edu

Overview

The Evergreen State College has established and committed to the goal of being carbon and waste neutrality by the year 2020. This sustainability focus has informed a process that is rethinking Campus operations and facilities planning at the College. The College 2007 strategic plan outlined the sustainability initiatives set by the College. Additionally, the College's new Campus Master Plan considers a wide range of opportunities to set the stage for making significant contributions towards balancing both carbon and waste production and includes transportation modes and patterns, energy production and use, food production, construction practices, waste stream management and student life and housing.

The College is committed to environmental sustainability and a comprehensive approach in regard to new and existing buildings. This includes sustainable design, building operating efficiencies, energy consumption, and water usage reduction. The College strives to make continuous improvements to provide a greener and sustainable Campus.

The CAB Renovation project was conceived under a student vote that dictated the project achieves LEED Gold certification. Day lighting, natural ventilation, rain water harvesting, energy efficient equipment, use of recycled materials are a few of the elements that will be incorporated into the building.

Projects

Project completed

Seminar II – 2004 – Achieved LEED Gold Certification.

Project Certification in Process

Lab I – First Floor Renovation – 2007 –final document is in process for LEED silver

Project in construction Phase

Campus Activities Building –Construction Completion Date September 2010 – Expected LEED Gold Level.

Training Efforts

The project management staffs are trained on many aspects of sustainable construction including LEED training sessions sponsored by GA, viewing Webcasts put on by various groups, and recently one member of the group received his LEED NC certification.

Lessons Learned

- Begin the LEED process as early as possible, preferably in the pre-design phase.
- Include the LEED cost for both design and construction in the project budget.
- Move all LEED documentation parallel with the different phases of the project.

Recommended Improvements to the Legislation

- Create incentives for projects less than 5,000 sq ft. that meet the requirement of RCW 39.35D
- Provide an incentive for projects that do not meet RCW 39.35D due to the project complexity but attain LEED certification (became a LEED certified bldg.) e.g., historical buildings, existing bldg that cannot meet one or more prerequisite in one area.

****

Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
ssimpso@ga.wa.gov & sustainableBA@ga.wa.gov

Due date: June 25, 2010

This will satisfy annual reporting requirements dictated by RCW 39.35D.

Sustainable Building Report

Reported by: Greg Black
360.725.2916
greg.black@commerce.wa.gov

The new Evergreen Program Manager is: Dena Harris
360.725.2902
dena.harris@commerce.wa.gov

Overview

As noted in RCW 39.35D.080, affordable housing projects funded out of the state capital budget are exempt from the LEED Silver requirement but they must meet a sustainable building standard adapted in collaboration with stakeholders. The Evergreen Sustainable Development Standard (ESDS) is the product of that collaboration and is applied to projects funded with capital bond proceeds in the WA State Housing Trust Fund. Projects must meet minimum requirements as defined by ESDS in the application, planning, and development processes. Construction and site features are verified by a third party contractor.

There is a web page that includes the Evergreen Criteria, forms and instructions, and other information at www.commerce.wa.gov/evergreen.

Projects

The following 3 projects are complete and have been verified to be in compliance with ESDS.

KCR Transitional Housing (Hewitt Avenue) – Kitsap Community Resources
Salishan 6 – Housing Authority of the City of Tacoma
Supportive Therapeutic Housing – Okanogan Behavioral Healthcare

There are 89 projects currently under contract that are being developed according to ESDS. A number of these are approaching completion but have not been finally verified.

Training Efforts

The Evergreen Standard is based upon the Green Communities Standard developed and used by Enterprise Community Partners. Bill Duncan from Enterprise in Washington, D.C. trained our internal staff in October 2007 on how Green Communities works including pitfalls and best practices. Commerce (CTED at the time) provided a series of 3 trainings for our contractors which Commerce staff also attended. Green Building 101 was given in June 2007, Pushing the Envelope was given in December 2007, and Nuts and Bolts was given in June 2008. ESDS was implemented on July 1, 2008. Alistair Jackson, a recognized sustainable building expert and consultant from O'Brien & Company of Seattle, was the presenter and each training was delivered twice, once in Spokane and once in Seattle.

Lessons Learned

For sustainable development to be effective and successful, awareness about planning and the planning process needs to be elevated and developers and architects need to make changes to the old way of doing this function. Our contractors went through an initial shock of having additional requirements if they were going to access WA State Housing Trust Fund dollars. Contractors, architects, and Commerce contract managers have worked and negotiated together on the contractors receiving approval for their Evergreen Project Plans so they could draw down funds. New construction has generally been easier on everyone. Rehabilitation projects have required more attention and negotiation because of the detail required to evaluate existing conditions and misconceptions about what needs to be changed and added to the scope of work and when this needs to be done. Commerce staff maintains a high level of constructive interaction with contractors as the details of sustainable development get solidified. Future project discussions are likely to take less staff time and be smoother given that contractors and architects have some experience and realize how ESDS applies. Some projects are receiving favorable media attention because of the green features which are the result of complying with ESDS.

Recommended Improvements to the Legislation

The Legislation should include some provision about raising energy efficiency levels to stay ahead of the WA State Energy Code.

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Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
stuart.simpson@ga.wa.gov & sustainableBA@ga.wa.gov

Sustainable Building Report

Reported by: *Michael Kendall*
Phone – 360-725-3073
E-mail – mike.kendall@commerce.wa.gov

Overview

Commerce Capital Programs strongly urges all of its Competitive and Direct appropriation recipients to achieve the LEED Silver Status whenever possible, however Direct appropriations and their sponsors in the Legislature continue to need greater education and understanding of the statute.

Projects

Active contracts overview: 45 projects have certified that they are going through the LEED process since its inception, and are just now coming to fruition. Out of those, 13 have been completed and achieved LEED Silver, five have achieved the higher LEED Gold certification, and 27 have not yet completed the LEED certification process. Most encouraging is the fact that no project has yet failed to meet the minimum Silver status. See attachment for specific project details.

Competitive grants overview: With one grant program yet to be processed for funding in the 2011-2013 application cycle, a total of 29 projects have applied. Of those, 10 (34%) plan to achieve at least the LEED silver certification - compared to 23% in the 2009-2011 biennium and 20% in the 2007-2009 Biennium. Seven received a facility-type exemption, and 12 received a "not practicable" exemption. Any projects recommended for funding at the conclusion of the agency's review process will be submitted to the Governor for possible inclusion in the 2011-2013 Capital Budget request. The Legislature will make the final determination concerning funding.

Direct appropriations overview: Capital Programs has been asked to administer 50 projects placed in the 2009-2011 Capital and 2010 Supplemental Capital Budgets by legislators or the Governor. We have no role in selecting these projects, and generally have no contact with the grantee until the budget is approved. As of the reporting date, 14 have executed contracts and provided us with information about their compliance with the green building law: one plans to achieve at least the LEED silver certification, five have received a facility-type exemption, and eight have received a "not practicable" exemption. Not practicable exemptions are only issued when a project is completed, considered "piecemeal" or otherwise ineligible for LEED Certification. Cost of certification is not an eligible reason for granting a not practicable exemption.

Training Efforts

After two cycles (four years) of offering green building workshops to our applicants, this program was discontinued due to budgetary constraints.

Lessons Learned

- Nonprofit organizations represent the majority of our grant recipients, and they are generally not required by other funding sources to enter the LEED process. Because these organizations must usually conduct time-intensive, independent fundraising campaigns to raise the non-state share of project costs, a key element in our role as grant officers is to convince nonprofits that LEED is cost-effective in the long term and good public policy - even though the initial construction costs will be higher.
- Projects in rural parts of the state were less familiar with LEED and often have fewer resources with which to comply with the law. This, however, is changing with time and awareness seems to be growing.
- Our projects are so diverse in terms of facility type as well as stage of development that a "one-size-fits-all" training program is not particularly efficient and effective.
- We have received a number of complaints from pro-green building architects and other professionals that the LEED process is not the most cost-effective approach for their projects.
- The USGBC seems to change their policies at the drop of a hat, and is nearly impossible for a non-LEED expert to keep up with.

Recommended Improvements to the Legislation

Recommend a thorough examination of other sustainability efforts and programs in order to determine the cost-effectiveness of the LEED system.

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Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
stuart.simpson@ga.wa.gov & sustainableBA@ga.wa.gov

Due date: July 9, 2010

This will satisfy some of the annual reporting requirements dictated by RCW 39.35D.

Sustainable Building Report
Department of Corrections – Capital Programs/Team C
August 10, 2010

Reported by: Kent Nugen, Chief of Capital Programs, Department of Corrections
Phone: 360.725.8353
E-mail: kdnugen@doc1.wa.gov

Overview

Capital Programs' commitment to designing, building, and certifying to LEED Silver – Sustainability is part of the Department of Corrections' Strategic Plan as a means to develop more effective and efficient business practices, and to support the Priority of Government to protect the environment.

In 2004, Capital Programs established a policy to design and construct all new occupied buildings over 5,000 square feet and all major building renovations to at least LEED Silver Standards. This policy was in response to the Department's Sustainability Plan that included a goal of building green. The 2005 Legislature passed a law requiring these same two provisions for all state-funded building projects.

Projects

Projects Completed and Achieved LEED Certification

1. MONROE CORRECTIONAL COMPLEX – SOU Maintenance Building – Completed 2005 – Achieved LEED Silver.
2. MONROE CORRECTIONAL COMPLEX – Training Center – Completed 2005 – Achieved LEED Gold.
3. WASHINGTON STATE PENITENTIARY – Warehouse – Completed 2005 – Achieved LEED Silver.
4. MONROE CORRECTIONAL COMPLEX – IMU/Segregation Unit – Completed in 2006 – Achieved LEED Silver.
5. CORRECTIONAL INDUSTRIES – Warehouse/Headquarters – Completed 2006 – Achieved LEED Silver.
6. WASHINGTON STATE PENITENTIARY – North Close Security Complex. Seven separate buildings were individually certified at Silver – Completed August 2007 – Achieved LEED Silver
7. CEDAR CREEK CORRECTIONS CENTER – Perimeter Control Office (PCO) Building – Completed February 2009 –Achieved LEED Silver
8. AIRWAY HEIGHTS CORRECTIONS CENTER New Visitation Building – Completed June 2008 – Achieved LEED Silver
9. AIRWAY HEIGHTS CORRECTIONS CENTER Treatment Program Building – Completed May 2009 – Achieved LEED Silver

10. COYOTE RIDGE CORRECTIONS CENTER – Expansion – October 2008 – Achieved campus-wide LEED Gold; 22 buildings total.
11. MISSION CREEK CORRECTIONS CENTER for WOMEN – 100-Bed Expansion – Completed March 2010 – Expect to achieve LEED Silver.
12. WASHINGTON CORRECTIONS CENTER FOR WOMEN- Health Care Facility – Completed January 2010 – Expect to achieve LEED Silver.
13. WASHINGTON STATE PENITENTIARY - South Close Custody Expansion / Correctional Industries Warehouse – Completed September 2009 – Expect to achieve LEED Silver.
14. WASHINGTON STATE PENITENTIARY - South Close Custody Expansion / Health Services Building – Completed June 2010 – Expect to achieve LEED Silver.

Projects in Design or Construction

1. WASHINGTON STATE PENITENTIARY - South Close Custody Expansion / Vocational Education & Correctional Industries Production Building – End of Construction Documents – Projected completion date is June 2011 - Expect to achieve LEED Silver.
2. STAFFORD CREEK CORRECTIONAL CENTER – Furniture Factory – Construction underway – Expected completion date June 2011 – Expect to achieve LEED Silver.

Projects in Planning Phase

3. WASHINGTON STATE PENITENTIARY – Two housing units – in design. Projected completion date is January 2012. Expect to achieve LEED silver.

Training Efforts

Capital Programs has two employees who are LEED Certified, down from six due to staff moves. All of the project managers have taken some LEED modules/training. Management encourages all project managers to achieve certification, because we believe it is a valuable credential.

Lessons Learned

What lessons were learned by your agency regarding the implementation of the LEED Silver requirement? What changes were made to your process that helped make your agency successful? Provide attachments as appropriate (samples of documents, spreadsheets, specs, etc.)

- Obtaining LEED certification is becoming more and more complex; encourage project managers to take the training for certification at the earliest possible time.
- When constructing a "Green Building" – or LEED is a goal from day one, it becomes much easier and less expensive to achieve the goal. It is similar to our trying to meet ADA 15 years ago – we would do a typical design and then try and adjust or fix things so they were ADA compliant. It caused problems and increased the expense. Nowadays designers just design to ADA; it has become part of the standards. We saw this same process play out on the Coyote Ridge Corrections Center project; it was designed to be energy and water efficient from day one, so there was no retrofitting or re-designing of systems.
- Obtaining LEED Silver was a priority on the Coyote Ridge Corrections Center Expansion project from the first day. Everyone bought into the concept. No special training of project management staff was necessary. Hiring the best available LEED professionals for design was a focus.
- It is a challenge, due to security requirements, on a small corrections campus to acquire necessary LEED points to achieve Site Development, Protect or Maintain Open Space, Restore Habitat and Development, and Maximize Open Space, these are all elements that make it challenging.
- The majority of structural wood is solid sawn and should be able to get FSC certification. The LSL studs (such as for mezzanine support and gable walls in which normal studs won't work) are not FSC certified. The frustration is LSL studs are more sustainable than FSC solid lumber because they are made out of wood "pieces" and glued together, in lieu of old growth. Unfortunately, LEED doesn't recognize the LSLs yet.
- The cost to implement/document LEED in smaller projects is larger than big projects from a percentage standpoint, largely because some of the same efforts are needed regardless of square footage.

Recommended Improvements to the Legislation

Describe what improvements could be made to make achieving LEED Silver easier. This might include incentives, disincentives, or (others?).

- Additional funding would be incentive to allow for inclusion of more green technology.
- Establish a funding pool for LEED green power points – for when the Owner has submitted for LEED and is close but has no additional funding available – as incentive to complete Silver.

****

Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
ssimpso@ga.wa.gov & GAsustainableBA@ga.wa.gov

This will satisfy annual reporting requirements dictated by RCW 39.35D.

Sustainable Building Report Template

Reported by: Robert J. Hubenthal, Office Chief, Office of Capital Programs
Nancy K. Deakins, P.E., Deputy Assistant Director, GA/DSHS Team
Phone: Bob – (360) 902-8168, Nancy – (360) 902-8161.
E-mail: hubenbj@dshs.wa.gov, deakink@dshs.wa.gov

Overview

The Department of Social and Health Services Sustainability Plan states: *[We are] committed to the Principles of Sustainability as described in Executive Orders 02-03, 04-01, 05-01, and 07-02, and RCW 39.35D for the needs of the present and future generations. We are dedicated to improving the quality of life and promoting healthy environments for the communities in which we work and live. We will strive to reduce the natural, economic, and cultural environmental footprints of the Department.*

The GA/DSHS Team uses the processes developed with General Administration for managing projects with LEED requirements.

While we are committed to sustainable design, construction, and facility operations, we occasionally find ourselves without adequate financial resources to satisfy all LEED certification requirements. We embrace sustainable principles and we incorporate sustainable practices wherever practicable, but we struggle with LEED certification obstacles.

Projects	Current Phase	Size (GSF)	LEED Level	Status
Echo Glen Children's Center Housing Units Remodel, Phase 2A-2B	Closeout	26,088	LEED NC Silver	Goal
Green Hill School New Intensive Management Unit	Closeout	22,407	Not practicable	Exemption
Green Hill School New Health Center & Administration	Closeout	20,657	LEED NC Silver	Goal
Western State Hospital New Kitchen & Commissary	Design	53,000	LEED NC Silver	Goal

Training Efforts

One project manager is a LEED Accredited Professional. Three other project managers have attended the LEED New Construction Technical Review Workshops provided by Stuart Simpson.

Lessons Learned

- Select design consultants with staff experienced in LEED design and certification.
- Start reviewing sustainable design opportunities and potential LEED credits early in the design process.
- Take a firm stand on the department's intent to meet LEED certification requirements and reinforce that message frequently with building users, consultants, and other stakeholders.
- Utilize eco-charettes.
- Review existing Credit Interpretation Requests (CIRs), and submit CIRs early in the process, if necessary.
- Budget $100,000-$200,000 for LEED documentation and processes to achieve LEED Silver.
- Schedule should allow two months document review time with USGBC at the time of project closeout.

Recommended Improvements to the Legislation

Provide enough funding in the DSHS projects to review concepts that can incorporate long term savings for mechanical and utility systems.

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Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
ssimpso@ga.wa.gov & GAsustainableBA@ga.wa.gov

Due date: June 30, 2010

This will satisfy annual reporting requirements dictated by RCW 39.35D.

Sustainable Building Report Template

Reported by: Stuart Simpson, Green Building Advisor
Department of General Administration
Telephone: (360) 902-7199

Overview

General Administration (GA), as the lead agency for the implementation of the State Agency and Higher Education portion of the High-Performance Green Building statute is very committed to its success. GA has the highest concentration of Project Managers in the state responsible for management of the design and construction of State capital projects. Out of the 106 State LEED projects being tracked by GA, 54 are managed by GA.

Five of GA's project managers are LEED Accredited Professionals (APs) and several others have taken LEED training. Several GA managed projects were certified before there was a requirement to meet LEED Silver certification. In addition, several new projects are pursuing LEED Gold. This is a testament to GA's commitment to High-Performance Green building as well as our clients' commitment to this goal. GA's Project Managers will continue to improve their knowledge of LEED in an effort to design and construct better and better buildings while minimizing the cost impacts of LEED.

The following projects are GA managed and that were completed and certified prior to the statute requirement:

Completed and Certified LEED Projects – Pre-LEED Silver Requirement

- Retsil Skilled Nursing Center, Dept. of Veteran's Affairs – LEED Gold
- Redmond Campus, Lake Washington Technical College – LEED Silver
- Edna Goodrich Office Building, Tumwater, DOT & DOC HQ – LEED Gold (Lease to own)
- Airdustrial Office Park, Tumwater, Attorney General – LEED Silver (Leased)
- Town Center East Building II, Tumwater, Dept. of Health – LEED Certified (Leased)

The projects that follow on the next page are GA managed projects required to meet the LEED Silver requirement. These projects are a mix of projects under design, construction, completed, and certified.

LEED Projects in Design/Construction	Projected/Actual Completion Date	LEED Level Targeted or Achieved
Bellevue College - Science & Tech Bldg	11/1/2008	Gold
Bellevue College – Health Sciences Bldg	4/1/2013	Target-Silver
Bellingham TC – Campus Center	3/1/2012	Target-Gold
Cascadia CC - Center for the Arts, Tech, & Global Interact	4/1/2009	Target-Platinum
Columbia Basin C - Social Science Center - Visual Arts Bldg.	9/1/2012	Target-Gold
Columbia Basin C - Business Education	6/30/2009	Target-Gold
Columbia Basin C - V Building Career & Tech Ed Center	6/1/2010	Target-Platinum
Edmonds CC - Meadowdale Hall Renovation	7/21/2009	Target-Silver
Everett CC - Undergraduate Education Center	11/5/2007	Silver
Everett CC – Student Fitness & Health Center	8/13/2010	Target-Gold
Everett CC – Index Hall Replacement	4/1/2013	Target-Gold
Green River CC - General Classroom Bldg.	8/1/2011	Target-Gold
Lake WA Tech - Allied Health Bldg.	4/1/2011	Target-Silver
Grays Harbor College – Child Care Building	2/4/2010	Target-Silver
North Seattle CC - Integrated Services Center	8/1/2010	Target-Silver
North Seattle CC – Technology Building Renewal	5/1/2013	Target-Silver
Seattle Central CC - Wood Construction Center	10/1/2011	Target-Gold
Skagit Valley CC - Science Bldg.	11/1/2008	Platinum
Skagit Valley CC - Academic & Student Support Building	10/1/2011	Target-Silver
Spokane CC – Tech Ed Building	3/6/2011	Target-Silver
Spokane CC – Building 7	11/10/2010	Target-Silver
Spokane Falls CC - Music Building	9/3/2010	Target-Silver
Spokane Falls CC - Classroom Bldg.	4/15/2011	Target-Silver
Spokane Falls CC - Business and Social Science	6/1/08	Gold
Spokane Falls CC - Early Learning Center	1/1/2011	Target-Gold
Spokane Falls CC – Science Building	2/25/2011	Target-Silver
Walla Walla CC - Center for Water and Environ. Studies	4/1/2008	Silver
Military - Washington Youth Academy	11/1/2008	Silver
Centralia College-Science Complex	12/15/2008	Gold
Clark College - East County Satelite Campus	11/26/2008	Gold
Clover Park TC - Allied Heath Care Facility	12/1/2010	Target-Silver
Olympic College - Humanities Building	1/8/2010	Target-Silver
Olympic College – Sophia Bremer Child Development Center	10/1/2010	Target-Silver
Peninsula College - Business & Humanities Center	3/28/2011	Target-Silver
Pierce College - Ft. Steilacoom - Science & Tech Center	6/1/2009	Target-Silver
Pierce Coll. - Puy - Communication, Arts & Allied Health	6/1/2009	Target-Silver
South Puget Sound CC - Science Complex	8/1/2008	Gold
South Puget Sound CC - Learning Resource Ctr. & Park'g.	1/1/2011	Target-Gold
South Puget Sound CC – Phase 2 Campus Center Redevelop	9/1/2010	Target-Gold
South Puget Sound CC - Building 22 Renovation	9/1/2010	Target-Silver
Yakima Valley CC – Grandview Library	6/30/2011	Target-Silver
Tacoma CC-Early Childhood Edu. & Child Care Center	7/18/2008	Gold
Tacoma CC-Health Careers Center	1/1/2013	Target-Gold
Capitol Campus – O'Brien Building	10/12/2012	Target-Silver
WA School for the Deaf, New Voc. Ed. & Support Bldg	8/1/2009	Gold
WA School for the Blind, New Phys. Ed. Center	3/1/2009	Target-Gold

Training Efforts

GA is committed to providing LEED training to Project Management staff. This includes LEED Accredited Professional training for those interested in taking the LEED AP test and general green building training as part of an on-going Project Manager training regiment. In the past couple of years reduced staff levels have limited the training opportunities.

GA's Green Building Advisor also provides free training to contractors selected for the State LEED projects. This training helps to ensure successful completion of the project through the LEED certification process.

Lessons Learned

- Make LEED experience part of the selection criteria for the Architect.
- Establish the LEED goals early in the design process through the use of an Eco-Charrette process. This half day process includes the design team, owner's representative, maintenance staff, future occupant representation, and the state project manager, and should be facilitated by someone knowledgeable about LEED.
- Participate in the GA LEED QA process to keep the project on track to achieve LEED Silver or better, and provide the data necessary for reporting progress to the Legislature.
- Establish the LEED Champion and Administrator for the project early in the design process. This person will be responsible for tracking LEED goals and assigning responsibilities related to LEED documentation and compliance.
- Share project experiences related to LEED, good and bad, and learn from them.
- Continue to improve experience and knowledge base regarding LEED. LEED is continually being updated and it is necessary to keep up with the improvements.
- Make sure metering requirements get included in the project during the design phase.
- Hire the Commissioning (Cx) Agent no later that the Design Development phase to ensure their input in the design. Make sure the Cx Agent reviews the Construction Documents prior to 90% to incorporate Cx comments.
- GA continues to refine LEED Project Management Guidelines (attached) and provide these to GA's and other State Project Managers.

Recommended Improvements to the Legislation

Provide funding assistance to projects between 5,000 and 10,000 square feet. Implementation of the LEED certification process for projects between 5,000 and 10,000 square feet is very challenging given the limited design and construction budgets. The impact to these smaller projects as a percentage is far greater than for the larger projects. A similar level of effort is needed for any LEED project with regards to documentation of LEED requirements.

Provide incentives for cost effective energy improvements to projects. Some of the cost effective energy efficient design features have a higher first cost than traditional design. These features can have a payback that is under ten years, however, they can compete with program requirements. GA could help implement such an incentive program through the Energy Life Cycle Cost Analysis (ELCCA) process. This could help to leverage utility incentives that could pay for the additional cost of the energy efficient design feature.

Require 0.5% of the MACC for a renewable energy system for State LEED buildings. At this time it is difficult to justify the expense of a renewable energy system on a State building. The benefits would be many:

- Contributes to the LEED Energy Optimization score,
- Contributes to the LEED Renewable Energy score,
- Creates a more stable renewable energy market that will create green jobs and increases competition,
- It will position Washington State well for the future as the costs for renewable energy systems become more cost effective by helping to create an infrastructure of designers and installers,
- State facilities would be positioned to help utilities meet their renewable energy goals set by I-937. This could leverage additional utility incentives to State facilities and income to the State facilities from the sale of renewable energy, and
- It would help to reduce CO2 emissions.

Sustainable Building Report

Report by Stuart Simpson, Green Building Advisor for Dept. of General Administration

Overview

No report was received from Dept. of Fish and Wildlife. To the best of my knowledge, DFW doesn't have any projects that would qualify and require LEED certification.

Projects

None at this time.

Training Efforts

Nothing reported.

Lessons Learned

Nothing reported.

Recommended Improvements to the Legislation

Nothing reported.

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Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
ssimpso@ga.wa.gov & sustainableBA@ga.wa.gov

Due date: June 30, 2008

This will satisfy annual reporting requirements dictated by RCW 39.35D.

Sustainable Building Report Template

Reported by: *Dennis Flynn*
Phone: 360-902-1163
E-mail dennis.flynn@dnr.wa.gov

Overview

Short paragraph explaining the commitment to designing, building, and certifying to LEED Silver.

Projects

None

Training Efforts

DNR is committed to having all our Project Managers certified LEED Green Associates. Half of our Facility PM's have achieved a LEED certification.

Lessons Learned

NA

Recommended Improvements to the Legislation

Describe what improvements could be made to make achieving LEED Silver easier. This might include incentives, disincentives, or (others?).

****

Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
stuart.simpson@ga.wa.gov & sustainableBA@ga.wa.gov

Due date: July 9, 2010

This will satisfy some of the annual reporting requirements dictated by RCW 39.35D.

Sustainable Building Report Template

Reported by: Terri Sinclair-Olson, R.A., LEED AP
Project Delivery Manager, WSDOT HQ Facilities Office
Phone: 360-705-7360
E-mail: Sinclat@wsdot.wa.gov

Overview

The Washington State Department of Transportation's policy goals state that we "will enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment; and continuously improve the quality, effectiveness, and efficiency of the transportation system." This includes the construction of facilities that support the transportation system. We are committed to the principles of sustainability as described in RCW 47.04.280 and RCW 39.35D. We strive to design and deliver energy efficient and sustainable facilities and programs.

Projects

Alaska Way Viaduct Tunnel Operations Building – Project Delivery Method: Design-Build - Status: RFP issued – Goal: LEED Silver - Projected Completion Date June 2015.

SR 520 Bridge Maintenance Facilities – Project Delivery Method: Design–Build, Status: RFP Development Phase - Goal: LEED Silver - Projected Completion Date Summer 2013.

Eagle Harbor Maintenance Facilities – Exemption Granted 7/30/2007. Projected Completion Date: May 2011.

Anacortes Ferry Terminal – Status: Design – Goal LEED Silver - Projected Completion Date: Currently funded for design only.

Mukilteo Ferry Terminal – Status: EIS – Goal LEED Silver – Project Completion Date: TBD

Seattle Ferry Terminal – Status: EIS – Goal LEED Silver – Projected Completion Date: TBD

Bainbridge Island Ferry Terminal – Not Funded

Olympic Region Headquarters – Status: Not Funded

Training Efforts

Two of six project delivery staff are LEED accredited professionals. Project managers are encouraged to attend LEED 3.0 training and seek accreditation. The costs for training and testing are covered by the Agency. In an effort to promote the value of LEED certification the WSDOT Facilities Office recently sponsored a workshop with maintenance and

operations staff to increase awareness of LEED concepts and to promote sustainable design and operations.

Lessons Learned

Planning for LEED goals should to occur in the pre-design phase. Stakeholder awareness of the importance of the process and goals is critical for success. Funding needs to be identified for LEED planning, documentation and certification. Allow appropriate time for evaluation of design options.

Recommended Improvements to the Legislation
None.

****

Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
stuart.simpson@ga.wa.gov & sustainableBA@ga.wa.gov

Due date: June 25, 2010

This will satisfy some of the annual reporting requirements dictated by RCW 39.35D.

Sustainable Building Report

Report by Stuart Simpson, Green Building Advisor for Dept. of General Administration

Overview

No report was received from State Parks. To the best of my knowledge, Parks doesn't have any projects that would qualify and require LEED certification.

Projects

None at this time.

Training Efforts

Nothing reported.

Lessons Learned

Nothing reported.

Recommended Improvements to the Legislation

Nothing reported.

****

Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
ssimpso@ga.wa.gov & sustainableBA@ga.wa.gov

Due date: June 30, 2008

This will satisfy annual reporting requirements dictated by RCW 39.35D.

Sustainable Building Report – State Data Center and Office Building

Reported by: Sally Alhadeff
Phone 360-902-0312
E-mail Sallya@dis.wa.gov

Overview

The State Data Center and Office Building project, commonly known as the Wheeler Project, is under construction on the east end of the Capitol Campus in Olympia. It is projected to be completed in 2011. The design development team for the project, including the owner, FYI Properties, developer Wright Runstad & Company, contractor Howard S. Wright, and state agency, Department of Information Services, have committed to achieving at least a silver rating for the base shell and core of the office building, and to use reasonable efforts to obtain a gold rating for the tenant improvements. When the project was being designed, there was no equivalent LEED certification available for data centers. However, since that time, LEED certification of data centers has become available, and the team is striving to achieve a minimum LEED silver certification for the new Washington State data center.

Projects

DIS Wheeler Project – anticipate Substantial Completion no later than September, 2011.

Training Efforts

The project's design development team has three LEED AP (Accredited Professionals) team members. In addition, the developer, the general contractor, the mechanical contractor and the electrical engineer each have team members with extensive experience on LEED projects. This has made training of project management staff unnecessary. However, there will be training of future building management staff.

Lessons Learned

1. *Hiring a competent design team with extensive LEED expertise makes the process efficient and effective because LEED standards are incorporated from project conception.*
2. *Living and working in a LEED certified building requires adjustments and compromises on the part of occupants. It is important to begin this education process early.*

Recommended Improvements to the Legislation

In the 5 years since RCW 39.35D was enacted requiring LEED Silver Certification for public buildings, LEED has become common in the industry and there is substantial expertise and experience on the part of developers, architects, engineers, contractors and subcontractors.

Sustainable Building Report
Department of Information Services
August 25, 2010

The State Data Center and Office Building on the former Wheeler lot is a lease-to-own facility with a 30 year lease. Because it is a leased facility, General Administration is not involved with the LEED program for the project. To assist GA in gathering information on LEED projects on the Capitol Campus, DIS has requested a copy of the LEED checklist produced by the design development team. A copy of the most recent report provided by the owner's representative, Wright Runstad & Company, is submitted with this document.

Collecting data for determining costs and savings associated with LEED will continue to be valuable to build a data base for a period of time. If DIS is responsible for monitoring and documenting ongoing operating savings, such appropriate information will be provided to GA as requested.


LEED NC v2_2 checklist_Data Cente


DIS CS LEED Checklist 081610.xls

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Submit this report to Stuart Simpson, GA Sustainable Building Advisor, by e-mail.
stuart.simpson@ga.wa.gov & sustainableBA@ga.wa.gov

2nd Letter Copy 05-1626

October 12, 2006

Mr. John Lynch Assistant Director
State of Washington, General Administration
Division of Engineering & Architectural Services
P.O. box 41012
Olympia, WA 98504-150

RE: Clarkston Health Science Facility
State Project No. ~~2005-162-G~~ 2005-162G

Walla Walla Community College is respectfully requested exemption from LEED certification requirement on the Clarkston Health Science Facility. As you know, this project has been under-funded from the beginning. The college, E & AS and the consultant team has been exploring all avenues to maintain or program and keep this project within the approved budget. After considerable study, the consultant team determined that the LEED certification (silver) would require the college to reduce the programs by 1,273 S.F. In addition the high bidding market required the reduction of a 1,600 S.F. of remodel. See attached documentation from Fred King of Northwest Architectural Services.

Sincerely

Jim Peterson
Vice President for Administrative Service

Northwest Architectural Company

October 12, 2006

Bruce E. Blackmer, FAIA
Dale S. Brookie, AIA
Keith M. Comes, AIA
Kevin P. Flanagan, AIA
Thomas E. Golden, AIA
Dana L. Harbaugh, AIA
Brent G. Harding, AIA
Colin R. Jones, AIA
A. Fred King, AIA
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R. G. Nelson, AIA
Michael R. O'Malley, AIA
Guy J. Overman, AIA
William M. Podobnik, AIA
Richard A. Salogga, AIA
Gregory J. Stack, AIA
Bruce B. Turner, PE

Natalie A. Dohrn, AIA
Mark J. Gifford, AIA
Douglas G. Heyamoto, AIA
Bennett J. Hill, AIA
Malcolm R. Jollie, AIA
William W. Rash, AIA
Steven M. Shiver, AIA
Boris Srdar, AIA

David Combs, Project Manager
General Administration / E&AS
P. O. Box 41012
Olympia, WA 98504-1012

RE: Walla Walla Community College - Clarkston Health Science Building
State Agreement No. 2005-162 G
NAC Project No. 1-05046 - 1Aa, 4Gf

Dear David:

As you requested, I have attempted to assign costs to all LEED Checklist items we answered as a 'yes' on the list and letter dated January 6, 2006.

We believe this is time well spent to help understand the entire process more thoroughly. Tracking the ideas generated in the checklist through the "eco-charette" meeting referred to above and this letter of explanation have required our consultants as well as ourselves to absorb around 50 hours of time and travel. This amounts to around $4,000.00 and does not include your time or Walla Walla Community College's efforts. This is not a complaint, but simply an exercise to address your request in itemizing all time and costs associated with the LEED process.

We believe in the concept of the LEED program and the sustainable design protocols. However, we know that validation and the initial introduction of new requirement results in added effort which only reduced the construction funds available for our already undersized project further. Many of the LEED points are accomplished within the design process and standards that our firm has used for years. On the other hand, we also recognize that changes have to be made in our thought processes to achieve the newly established standards. Further, we know that for each new standard there is a Learning Curve and want to provide this information to assist the College, State, and our profession to a more definitive understanding of the actual cost and effort for implementation.

In our January 6, 2006 letter and attached checklist, we outlined that our program size of 10,000 SF would require a reduction to 9,000 SF. As it turns out, the reduction in square footage was not made to accommodate the LEED Checklist ideas. Instead, the area reduction was used to offset increasing costs in the range of 25% over two years. We recently received the bids for this project (which by the way were on target with our estimate) for a building of 9,200 SF costing $1,936,000, which translates to a cost of $210.00/SF.

Since we needed to implement all major design ideas that effected the exterior envelope early in the Schematic Design phase, we started with a central clerestory over the student commons and a translucent ceiling over the central office work area to achieve our targeted credit under 8.1 and 8.2 for Daylighting and Views. These features have remained within the design at an increase to the project cost of approximately $120,000.00. This is the only premium cost identified in our original chart as being verified through this bidding process and answered 'yes' in our original chart attached to this letter. The only reason these design features were retained was to satisfy the occupants and their placement of these design elements at the top of the project's priority list when we concluded our cost reductions (in-house value engineering) to achieve our budget. We believe that we would receive the LEED credits for 8.1 and 8.2. In short, the occupants were willing to give up other program amenities for Daylighting. To verify that each credit has been accomplished and determine the cost for each would require implementing the following process

Offices in
Spokane, Seattle
and Coeur d'Alene

1203 West Riverside
Spokane, Washington
99201-1107

TEL 509-838-8240
FAX 509-838-8261
spokane@nwarchco.com
www.nwarchco.com

within our office. All other credits listed as a 'yes' are merely estimate guesses. We offer the following information in an effort to demonstrate that we would have followed the checklist if satisfying those requirements would have been practicable.

We have documented this process on one other project within our office which is now under construction. Therefore, we are certain that we would request extra services fees above those received for achieving the goals in those projects if we were to start with the knowledge that we have today on the expanded effort that is required.

The tasks listed below would require the following added effort, at least initially, and fees for our documentation. Additional costs for the General Contractor's verification logs and work are also listed.

Task One: The review of the LEED Project Checklist to determine probable credits that will be selected to be incorporated within the Schematic Design chosen to achieve 38 points and document those credits will require $15,000 to $20,000 of effort. We list 38 points knowing that many of the points targeted to achieve will not materialize. I think that it's also worth noting that the pre-design state process will also have to be expanded to consider LEED program cost increases to determine an adequate budget request.

Task Two: The in-depth application of a specific design and complete understanding with documented submittals to register the project will require $15,000 to $20,000 of added effort during the Design Development phase.

Task Three: Final area calculation, specifications material research, detail documentation, and consultant coordination will require $15,000 to $20,000 of added effort during the Construction Document phase.

Task Four: Bidding approvals, construction monitoring of contractor's verification logs and coordination will require $5,000 to $10,000 in added effort during construction and commissioning.

Task Five: The General Contractor's submittal of written verification logs along with photographs of site and building methods verifying implementation will range from $50,000 to $100,000.

We have verified this last category by requesting that the contractors list their effort to comply with the LEED program as an alternate on projects bid in late 2005 and early 2006. These alternates were listed at $50,000 for a project of 60,000 SF bid at $10,000,000 and an amount of $60,000 for a project of 72,000 SF bid at $13,000,000. This equates to 83 cents per square foot.

Totaling these five tasks creates a range of costs as listed below:

Task One	low	$	15,000	high	$ 20,000
Task Two	low		15,000	high	20,000
Task Three	low		15,000	high	20,000
Task Four	low		5,000	high	10,000
Task Five	low		50,000	high	100,000
Total Added Costs	low	$	100,000	high	$ 170,000

The increase in Tasks One through Four is $50,000 to $70,000 or, for a building of 9,200 SF, creates a range of $5.40/SF to $7.60/SF of added cost. Task Five costs 83 cents per square foot and therefore creates an added total cost of $6.23/SF to $8.43/SF for accomplishing the Silver rating. Using the low range increase of $6.23/SF, our project increases from $1,936,000 to $1,993,316.

To accomplish our budget of $1,936,000 would require an added reduction of 273 SF.

The accomplishment of our Daylighting and View credits reduced the project from 10,000 SF to 9,200 SF.

In addition, we listed the 1,600 SF classroom programmed to be remodeled as an alternate which could not be taken.

Adding these three reductions totals 2,673 SF or amounts to three lost classrooms.

The Clarkston facility has reduced their original request of 6.5 classrooms to 3.5 as bid on June 7, 2006.

I believe this analysis and the attached list confirms that our request for a "Not Practicable" Exemption remains valid. In fact, it has become more difficult to maintain the original program requirements because we attempted to achieve the Daylighting credits. Please do not misinterpret this as saying the LEED program has made the entire reduction of program area necessary. We are all aware that the increased construction costs have contributed as much if not more than the LEED program requirements. Both challenges have resulted in a greater reduction in area than expected in our January 6, 2006 request letter. More importantly, the funding request for this building project was submitted prior to the adoption of the LEED requirements. Therefore, funding was not received for the added costs because they were not anticipated.

Sincerely,

A. Fred King, AIA
Principal

WWCC Clarkston Health Science Building

State Project No. 2005-162
NAC Project No. 1-05046-4Gf
January 6, 2006

Bruce E. Blackmer, FAIA
Dale S. Brookie, AIA
Keith M. Comes, AIA
Kevin P. Flanagan, AIA
Thomas E. Golden, AIA
Dana L. Harbaugh, AIA
Brent G. Harding, AIA
Colin R. Jones, AIA
A. Fred King, AIA
Steven J. McNutt, AIA
R. G. Nelson, AIA
Michael R. O'Malley, AIA
Guy J. Overman, AIA
William M. Podobnik, AIA
Richard A. Salogga, AIA
Gregory J. Stack, AIA
Bruce B. Turner, PE

Mark J. Gifford, AIA
Douglas G. Heyamoto, AIA
Malcolm R. Jollie, AIA
William W. Rash, AIA

An "eco-charrette" was conducted for the above referenced project on October 31, 2005. Results of that eco-charrette have led the design team to conclude that achieving the LEED Silver Standard is not practicable for this project. We are therefore seeking a "Not Practicable" Exemption. We offer the following description:

- Clarkston's relatively small size places it at a disadvantage in obtaining LEED points which are easier to achieve in urban areas. Examples include:
  - Inability to meet the minimum development density of 60,000 sf/acre even though the project is located in downtown Clarkston.
  - Lack of a public transportation system.
  - Inability to limit parking due to functional needs and zoning requirements.
- With Clarkston's relatively hot arid climate, it becomes extremely difficult to maintain landscaping with water-use reduction rates required by LEED.
- The building's modest size (9,200 sf) and low water demand provide little to no opportunity to further reduce water usage.
- No readily available source of on-site renewable energy.
- As a consequence of not realizing these 5 to 6 points, WWCC must acquire points elsewhere in the LEED system using extraordinary measures at additional, unanticipated expense. Examples include:
  - Concrete paving for light reflectance in lieu of asphalt paving
  - Recycling 75% of construction waste materials in lieu of 50% recycling
  - Providing 5% salvaged or refurbished materials
  - Providing 10% recycled materials in lieu of 5%
  - Providing Certified Wood
  - Buying "green" power from Avista

It is anticipated that 20-22 points can be achieved without significant impact to the overall project budget.

This project is being partially funded by the state ($1M) with the remainder of the funds ($1.6M) being provided locally.

The increased expenses to the project to achieve even a LEED Certified Standard would require the reduction of area from a total of 10,000 sf (including remodel of existing space) to less than 9,000. This would effectively reduce the project from 4.5 classrooms to 3.5 classrooms.

Offices in
Spokane, Seattle
and Coeur d'Alene

1203 West Riverside
Spokane, Washington
99201-1107

TEL 509-838-8240
FAX 509-838-8261
info@nwarchco.com
www.nwarchco.com

High-Performance Green Buildings

Exemption Declaration

Received by GA.

Date: 6-Jan

Submit to: sustainableba@ga.wa.gov

Project Name:	WWCC Clarkston Health Science Building	Agency/Institution	Walla Walla Community College
Project Number:	2005-162	GA H-P Green Bldg. #	

Submitted By:	Name	Agency	Phone	E-Mail
	James R. Peterson	WWCC	509-527-4215	jim.peterson@wwcc.ctc.edu

Total Facility Square Footage Estimate: 9,000

Project Location/Address: Clarkston, WA

Facility Type Exemption*	Exempt Space Approx. %	Agency Representative Signature Block
Transmitter Building		
Pumping Station		
Hospital (not including skilled nursing)		Signature
Research Facilities with Laboratories		Name:
		Title:

"Not Practicable" Exemption**	Yes/No	Agency Representative Signature Block
Project will attempt to achieve LEED Silver	No	
Project will attempt to achieve LEED Certified	No	Signature
Project will seek US Green Bldg. Council LEED Certification	No	Name:
		Title:

This Exemption Submittal includes the following:

Provide a one page description of why the exemption is being sought. X

* If a "Facility Type" exemption is requested and verified, no further submittals are required.

** If a "Not Practicable" exemption is requested, the project should pursue LEED to the level that is "practicable" for the project. Project are encouraged to participate in the GA Submittal process and subsequent annual reporting of the energy and water/sewer consumption to GA. This will demonstrate a "Good Faith" consistent with the intent of ESSB 5509. Complete the appropriate GA Submittal forms as the project progresses through the design and construction process.

LEED Version 2.1 Project Checklist

WWCC Clarkston Health Science Building
Clarkston, Washington 1-05046-4Gf

Sustainable Sites — 14 Points

Yes	?	No			Required
5	1	8			
Y			Prereq 1	**Erosion & Sedimentation Control**	Required
1			Credit 1	**Site Selection**	1
		N	Credit 2	**Development Density**	1
		N	Credit 3	**Brownfield Redevelopment**	1
		N	Credit 4.1	**Alternative Transportation**, Public Transportation Access	1
1			Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1
		N	Credit 4.3	**Alternative Transportation**, Alternative Fuel Vehicles	1
	?		Credit 4.4	**Alternative Transportation**, Parking Capacity and Carpooling	1
		N	Credit 5.1	**Reduced Site Disturbance**, Protect or Restore Open Space	1
		N	Credit 5.2	**Reduced Site Disturbance**, Development Footprint	1
1			Credit 6.1	**Stormwater Management**, Rate and Quantity	1
1			Credit 6.2	**Stormwater Management**, Treatment	1
		N	Credit 7.1	**Landscape & Exterior Design to Reduce Heat Islands**, Non-Roof	1
		N	Credit 7.2	**Landscape & Exterior Design to Reduce Heat Islands**, Roof	1
1			Credit 8	**Light Pollution Reduction**	1

Water Efficiency — 5 Points

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

Energy & Atmosphere — 17 Points

Yes	?	No			Required
4		5			
Y			Prereq 1	**Fundamental Building Systems Commissioning**	Required
Y			Prereq 2	**Minimum Energy Performance**	Required
Y			Prereq 3	**CFC Reduction in HVAC&R Equipment**	Required
2			Credit 1	**Optimize Energy Performance**	1 to 10
		N	Credit 2.1	**Renewable Energy**, 5%	1
		N	Credit 2.2	**Renewable Energy**, 10%	1
		N	Credit 2.3	**Renewable Energy**, 20%	1
1			Credit 3	**Additional Commissioning**	1
1			Credit 4	**Ozone Depletion**	1
		N	Credit 5	**Measurement & Verification**	1
		N	Credit 6	**Green Power**	1

Materials & Resources — 13 Points

Yes	?	No			Required
			Prereq 1	**Storage & Collection of Recyclables**	Required
		N	Credit 1.1	**Building Reuse**, Maintain 75% of Existing Shell	1
		N	Credit 1.2	**Building Reuse**, Maintain 100% of Shell	1
		N	Credit 1.3	**Building Reuse**, Maintain 100% Shell & 50% Non-Shell	1
1			Credit 2.1	**Construction Waste Management**, Divert 50%	1
		N	Credit 2.2	**Construction Waste Management**, Divert 75%	1
		N	Credit 3.1	**Resource Reuse**, Specify 5%	1
		N	Credit 3.2	**Resource Reuse**, Specify 10%	1
1			Credit 4.1	**Recycled Content**, Specify 5% (post-consumer + ½ post-industrial)	1
		N	Credit 4.2	**Recycled Content**, Specify 10% (post-consumer + ½ post-industrial)	1
	?		Credit 5.1	**Local/Regional Materials**, 20% Manufactured Locally	1
		N	Credit 5.2	**Local/Regional Materials**, of 20% Above, 50% Harvested Locally	1
		N	Credit 6	**Rapidly Renewable Materials**	1
		N	Credit 7	**Certified Wood**	1

3 Yes ? No

Indoor Environmental Quality — 15 Points

Yes	?	No			Required
Y			Prereq 1	**Minimum IAQ Performance**	Required
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
		N	Credit 1	**Carbon Dioxide** (CO_2) **Monitoring**	1
		N	Credit 2	**Ventilation Effectiveness**	1
1			Credit 3.1	**Construction IAQ Management Plan**, During Construction	1
1			Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1
1			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1
1			Credit 4.2	**Low-Emitting Materials**, Paints	1
1			Credit 4.3	**Low-Emitting Materials**, Carpet	1
1			Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber	1
1			Credit 5	**Indoor Chemical & Pollutant Source Control**	1
1			Credit 6.1	**Controllability of Systems**, Perimeter	1
		N	Credit 6.2	**Controllability of Systems**, Non-Perimeter	1
		N	Credit 7.1	**Thermal Comfort**, Comply with ASHRAE 55-1992	1
		N	Credit 7.2	**Thermal Comfort**, Permanent Monitoring System 2.2	1
		N	Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1
		N	Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1

2 Yes ? No

Innovation & Design Process — 5 Points

Yes	?	No			
		N	Credit 1.1	**Innovation in Design:** Provide Specific Title GREEN CLEANING	1
		N	Credit 1.2	**Innovation in Design:** Provide Specific Title EDUCATION	1
		N	Credit 1.3	**Innovation in Design:** Provide Specific Title	1
		N	Credit 1.4	**Innovation in Design:** Provide Specific Title	1
1			Credit 2	**LEED™ Accredited Professional**	1

3 Yes ? No

Project Totals (pre-certification estimates) — 69 Points

Yes	?	No	
20	2	39	**Project Totals (pre-certification estimates)**

Certified 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points

STATE OF WASHINGTON
DEPARTMENT OF CORRECTIONS
ADMINISTRATIVE SERVICES DIVISION
CAPITAL PROGRAMS
PO Box 41112, Olympia, Washington 98504-1112
Tel (360) 725-8352 – Fax (360) 586-8723

July 13, 2007

Mr. Stuart Simpson, Facilities Senior Planner
Department of General Administration
E&A Services, Energy Services Section
Post Office Box 41012
Olympia, Washington 98504-1012

Dear Stuart:

Re: LEED Exemption Justification
Mission Creek Corrections Center for Women – 120-Bed Expansion
Project No. 06-312

The Washington State Department of Corrections' Capital staff members have reviewed and considered the Mission Creek expansion project for LEED, and we have determined that we should request an exemption.

Our original advertisement for A/E firms was in June of 2005, prior to the *High Performance Public Building Law* becoming effective. Because the original project scope of 3,200-sq. ft. was well below the LEED guidelines of 5,000-sq. ft., we did not advertise this as a LEED project.

The originally funded scope of work was a combination of a new housing unit and a remodel of an existing housing unit. The new housing unit was to be 3,200-sq. ft. with minimal site work. The remodel of the existing housing unit involved demolition, adding additional toilets, sinks, showers, and enhancing the ventilation system in the restroom areas. The remaining work on the project was an expansion of the existing wastewater treatment system to accommodate the additional population.

We determined during the programming phase of the project that it was best to build a new housing unit, not remodel the existing one. This change in direction created a serious challenge to the project budget for the program needs, leaving no additional funds for LEED. The new housing unit has 11,380-sq. ft. of correctional operations area, with an

additional 1,481-sq. ft. of mechanical space located in a basement under the housing unit. The building envelope is wood construction and there is minimal site work.

Even though we are requesting an exemption, we have already included many green building elements in the project. These include: local and recycled content materials; low-emitting materials; views; no added parking; reduced heat island effect; and water-efficient landscaping and fixtures.

The A/E firm did prepare a LEED checklist, with 18 points achieved and incorporated into the project. However, because of the project's small size, remote location, extremely limited budget, and with the constraints of a prison environment, many points are not available.

To summarize the reasons for the exemption request:

1. Because of the small project scope, we did not plan for LEED certification.
2. The original project did not anticipate a new building larger than 3,200 square feet.
3. There are no funds available in the project budget.

Thank you for your consideration of our exemption request. I look forward to hearing back from you. If you have any questions, please call me at (360) 725-8353, or email me at kdnugen@doc1.wa.gov or contact Ed Hampton, Project Manager, at (360) 725-8345 or email at elhampton@doc1.wa.gov.

Sincerely,

Kathleen J. Stewart /for

Kent Nugen, Chief of Capital Operations
Capital Programs

KN:jbs
Enclosure: High Performance Green Building Exemption Request
cc: David Jansen, Administrator
Janine Bogar, Environmental Planner 4
Edward Hampton, Project Manager
Pebble Hernandez, Contract Specialist 3

High-Performance Green Buildings

Exemption Declaration

Received by GA:	Date:	7/9/2007
	Submit to:	sustainableba@ga.wa.gov

Project Name:	Mission Creek 120 Bed		Agency/Institution	Mission Creek Corrections Center
Project Number:	06-312	GA H-P Green Bldg. #		

	Name	Agency	Phone	E-Mail
Submitted By:	Kent Nugen	DOC	725-8353	kdnugen@msn.com

Conceptual Construction Cost Estimate	$1,930,000
Total Facility Square Footage Estimate	12,861
Project Location/Address	

Facility Type Exemption*	Exempt Space Approx. %
Transmitter Building	
Pumping Station	
Hospital (not including skilled nursing)	
Research Facilities with Laboratories	

Agency Representative Signature Block

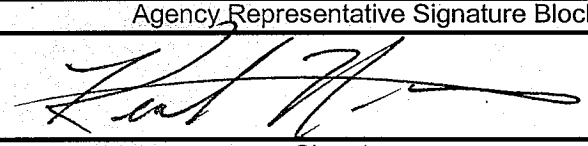
Signature

Name:

Title:

"Not Practicable" Exemption**	Yes/No
The project will seek US Green Bldg. Council LEED Certification**	No
The project will participate in the GA LEED QA process**	No
The project will take no further action regarding LEED.	Yes/No

Agency Representative Signature Block



Signature

Name: Kent Nugen

Title: Chi Kent Nugen

This Exemption Submittal includes the following:

Provide a one page description of why the exemption is being sought. [X]

Provide a LEED Checklist indicating which LEED Credits may be "practicable" for the project. [ ] LEED Score attempting [ ]

* If a "Facility Type" exemption is requested and verified, no further submittals are required.

** If a "Not Practicable" exemption is requested, the project should pursue LEED to the level that is "practicable" for the project. Projects are encouraged to participate in the GA LEED QA process and subsequent annual reporting of the energy and water/sewer consumption to GA. This will demonstrate a "Good Faith" effort consistent with the intent of RCW 39.35D. Complete the appropriate GA LEED QA forms as the project progresses through the design and construction process. Feedback from GA will help projects to achieve the proposed LEED goal and will help to maximize utility incentives.

*** If the project continues to seek LEED Certification the project should also participate in the GA LEED QA process.

Form Last Updated
April 2006

High-Performance Green Buildings

Exemption Declaration

Received by GA:

Date: 1/19/2007

Submit to: sustainableba@ga.wa.gov

Project Name:	Eagle Harbor Maintenance Building Remodel and Dock Repairs	Agency/Institution	Washington State Ferries (WSF)
Project Number:	06W062	GA H-P Green Bldg. #	05-056

	Name	Agency	Phone	E-Mail
Submitted By:	Lisa Parriott	WSF	(206) 515-3723	ParrioL@wsdot.wa.gov

Conceptual Construction Cost Estimate: $12,329,800 MB only, excluding inflation to construction midpoint

Total Facility Square Footage Estimate: 39,320

Project Location/Address: Eagle Harbor Maintenance Facility, 497 Harbor View Drive, Bainbridge Island, Washington

Facility Type Exemption*	Exempt Space Approx. %
Transmitter Building	-
Pumping Station	-
Hospital (not including skilled nursing)	-
Research Facilities with Laboratories	-

Agency Representative Signature Block

Signature

Name: -

Title: -

"Not Practicable" Exemption**	Yes/No
The project will seek US Green Bldg. Council LEED Certification***	No
The project will participate in the GA LEED QA process**	Yes
The project will take no further action regarding LEED.	No

Agency Representative Signature Block

Signature

Name: John H. White

Title: WSF Director of Terminal Engineering

This Exemption Submittal includes the following:

Provide a one page description of why the exemption is being sought. [X]

Provide a LEED Checklist indicating which LEED Credits may be "practicable" for the project. [X] LEED Score attempting 12

* If a "Facility Type" exemption is requested and verified, no further submittals are required.

** If a "Not Practicable" exemption is requested, the project should pursue LEED to the level that is "practicable" for the project. Projects are encouraged to participate in the GA LEED QA process and subsequent annual reporting of the energy and water/sewer consumption to GA. This will demonstrate a "Good Faith" effort consistent with the intent of RCW 39.35D. Complete the appropriate GA LEED QA forms as the project progresses through the design and construction process. Feedback from GA will help projects to achieve the proposed LEED goal and will help to maximize utility incentives.

*** If the project continues to seek LEED Certification the project should also participate in the GA LEED QA process.

Form Last Updated
April 2006

Washington State Department of Transportation

Douglas B. MacDonald
Secretary of Transportation

Washington State Ferries
2901 3rd Avenue, Suite 500
Seattle, WA 98121-3014

206-515-3400
TTY: 1-800-833-6388
www.wsdot.wa.gov/ferries

W. Michael Anderson
Assistant Secretary of Marine Operations
Executive Director

December 20, 2006

Mr. Stuart Simpson, Energy Engineer
State of Washington Department of General Administration
Division of Engineering and Architectural Services
P.O. Box 41000
Olympia, Washington 98504-1000

Dear Mr. Simpson:

After reviewing the 30% design package for the Eagle Harbor Maintenance Building Remodel and Dock Repair project, it is evident that the existing Maintenance Building renovation will not meet LEED Silver or Certified levels. The current level of funding provides for structural repairs and improvements to the building and surrounding dock along with limited tenant improvements within the building. Efforts to attain the required prerequisites and sufficient additional credits would change the scope of the project significantly.

The constraints of the existing superfund site remediation design and the type of industrial processes performed within the building limit the opportunities to apply many Green Building strategies. We will attempt to meet the intent and requirements of several Green Building features, as indicated on the attached LEED Checklist. There are approximately 12 credits that are feasible to apply to this project.

Due to the constraints that limit the credits that can be attained with this project I request a "Not Practicable" Exemption from the U.S. Green Building Council LEED Certification program. However, the project will participate in the General Administration's LEED Quality Assurance Process.

Sincerely,

John H. White, P.E.
Director, Terminal Engineering

EWT
Attachment: LEED Checklist
cc: Project File

LEED-NC

LEED-NC Version 2.2 Registered Project Checklist

Washington State Ferries - Eagle Harbor Maintenance Building Remodel and Dock Repairs (30% PS&E)
Bainbridge Island, WA

Instructions

The scorecard below should be used throughout the design and development of your building project to track your anticipated LEED™ score. The spreadsheet automatically dates each printout to give you a snapshot of your LEED™ score as your project progresses. The active spreadsheet sums the credit points for each category and provides a total score for the project. Do not input values in the category subtotal or in the project total fields as this will be done automatically.

The prerequisites are required and must be achieved. Thus, a **"Y"** appears in the appropriate column for each prerequisite. Beside each credit are three boxes to indicate the likelihood of achieving each credit. To score the project appropriately, input the number of points for that credit into the first column labeled **"Y"** if this credit will be pursued. Input the number of points in the second column labeled **"?"** if it is unsure if this credit will be pursued. Finally, input the number of points in the third column labeled **"N"** if this credit will not be pursued or is not applicable to the project. The possible points available for each credit are shown in the far right column in each category. Remember that Energy & Atmosphere Credit 1 is worth up to 10 points and Energy & Atmosphere Credit 2 is worth up to 3 points.

The total number of points listed in the first box of the Total Project Score indicates the current anticipated score of the project. The ranges for each LEED certification category are listed below this row. A minimum of 33 points and achievement of all prerequisites is required to achieve Silver.

In the Innovation & Design Process category you are encouraged to propose up to four innovations for your project. You should rename the credit titles for Credits 1.1 to 1.4 to reflect the strategies your project will propose.

For each credit, provide a brief discussion of strategies considered for obtaining the credit. If the credit is not being pursued, provide justification for limitations of the project that prevent the credit from being achieved.

Yes	?	No					
3		11	**Sustainable Sites**		14 Points		**Discussion**
Y			Prereq 1	**Construction Activity Pollution Prevention**	Required		Local code requirements for erosion and sedimentation control achieve this point.
1			Credit 1	**Site Selection**	1		Existing developed site.
1			Credit 2	**Development Density & Community Connectivity**	1		Our site appears to meet option 2 requirements for community connnectivity.
		1	Credit 3	**Brownfield Redevelopment**	1		Must minimize disturbances to cap on superfund site.
1			Credit 4.1	**Alternative Transportation**, Public Transportation Access	1		Our site is within 1/4 mile of two bus lines.
		1	Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1		Bike racks and shower/changing facilities are not included.
		1	Credit 4.3	**Alternative Transportation**, Low-Emitting and Fuel-Efficient Vehicles	1		No revisions to the current parking plan are planned
		1	Credit 4.4	**Alternative Transportation**, Parking Capacity	1		No revisions to the current parking plan are planned
		1	Credit 5.1	**Site Development**, Protect of Restore Habitat	1		Capped superfund site - Unable to restore site habitat
		1	Credit 5.2	**Site Development**, Maximize Open Space	1		Capped superfund site - Unable to reduce hard surfaces
		1	Credit 6.1	**Stormwater Design**, Quantity Control	1		Capped superfund site - unable to attain this point.
		1	Credit 6.2	**Stormwater Design**, Quality Control	1		Capped superfund site - unable to attain this point.
		1	Credit 7.1	**Heat Island Effect**, Non-Roof	1		Capped superfund site - existing asphalt to remain in place
		1	Credit 7.2	**Heat Island Effect**, Roof	1		Existing roof will not be replaced.
		1	Credit 8	**Light Pollution Reduction**	1		Existing security lighting to remain.

Yes	?	No					
1		4	**Water Efficiency**		5 Points		**Discussion**
		1	Credit 1.1	**Water Efficient Landscaping**, Reduce by 50%	1		No landscaping planned for project.
		1	Credit 1.2	**Water Efficient Landscaping**, No Potable Use or No Irrigation	1		No landscaping planned for project.
		1	Credit 2	**Innovative Wastewater Technologies**	1		Rainwater catchment system unfeasible.
1			Credit 3.1	**Water Use Reduction**, 20% Reduction	1		Plan to use waterless urinals and low demand fixtures.
		1	Credit 3.2	**Water Use Reduction**, 30% Reduction	1		Unlikely to attain this level of water reduction.

Yes	?	No					
1		5	**Energy & Atmosphere**		17 Points		**Discussion**
Y		N	Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required		Will not meet this requirement -planning to reuse existing systems
Y		N	Prereq 2	**Minimum Energy Performance**	Required		Will not meet this requirement -existing exterior envelope, heating systems, and lighting are not planned to be upgraded.
Y			Prereq 3	**Fundamental Refrigerant Management**	Required		AC unit at IT Room does comply.
		1	Credit 1	**Optimize Energy Performance**	1 to 10		Unable to attain this point.
		1	Credit 2	**On-Site Renewable Energy**	1 to 3		Unable to attain this point.
		1	Credit 3	**Enhanced Commissioning**	1		Unable to attain this point.
1			Credit 4	**Enhanced Refrigerant Management**	1		AC unit at IT Room does comply.
		1	Credit 5	**Measurement & Verification**	1		Unable to attain this point.
		1	Credit 6	**Green Power**	1		Not included at this time

Yes	?	No					
4	3	6	**Materials & Resources**		13 Points		**Discussion**
Y			Prereq 1	**Storage & Collection of Recyclables**	Required		Will provide recycling area near common lunchroom.
1			Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1		Anticipate maintaining 75% of existing walls, floors, and roof
		1	Credit 1.2	**Building Reuse**, Maintain 100% of Existing Walls, Floors & Roof	1		Unable to attain this point. Replacing foundation
		1	Credit 1.3	**Building Reuse**, Maintain 50% of Interior Non-Structural Elements	1		Unable to attain this point.
1			Credit 2.1	**Construction Waste Management**, Divert 50% from Disposal	1		Will specify for contractor to conform.
	1		Credit 2.2	**Construction Waste Management**, Divert 75% from Disposal	1		Possible for contractor to conform
		1	Credit 3.1	**Materials Reuse**, 5%	1		No current plans for reused components
		1	Credit 3.2	**Materials Reuse**,10%	1		No current plans for reused components
1			Credit 4.1	**Recycled Content**, 10% (post-consumer + ½ pre-consumer)	1		Should be able to specify and document 5% recycled material
	1		Credit 4.2	**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1		May be able to specify and document 10% recycled material
1			Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured Regio	1		Anticipate 10% regional material use.
	1		Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured Regio	1		Possible for 20% regional material use
		1	Credit 6	**Rapidly Renewable Materials**	1		Will not be appropriate for this project
		1	Credit 7	**Certified Wood**	1		No current plans for this due to additional costs

Yes	?	No	Indoor Environmental Quality		15 Points	Discussion
Y		N	Prereq 1	**Minimum IAQ Performance**	Required	Unattainable due to industrial processes.
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required	
		1	Credit 1	**Outdoor Air Delivery Monitoring**	1	No current plans for this due to additional costs
		1	Credit 2	**Increased Ventilation**	1	Does not meet requirements for naturally ventilated spaces. Additional costs associated with mech ventilated spaces
	1		Credit 3.1	**Construction IAQ Management Plan**, During Construction	1	May be able to comply.
		1	Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1	Unable to attain this point.
1			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1	Can specify materials to comply
1			Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1	Can specify materials to comply
		1	Credit 4.3	**Low-Emitting Materials**, Carpet Systems	1	No carpet used.
	1		Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1	May not be appropriate for this project. Must meet structural requirements.
		1	Credit 5	**Indoor Chemical & Pollutant Source Control**	1	Unable to attain this point.
		1	Credit 6.1	**Controllability of Systems**, Lighting	1	Impractical to provide controls for 90% of occupants.
		1	Credit 6.2	**Controllability of Systems**, Thermal Comfort	1	Impractical to provide controls for 50% of occupants.
		1	Credit 7.1	**Thermal Comfort**, Design	1	Unable to attain this point.
		1	Credit 7.2	**Thermal Comfort**, Verification	1	Do not intend to provide a thermal comfort survey
		1	Credit 8.1	**Daylight & Views**, Daylight 75% of Spaces	1	Unable to attain this point.
		1	Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1	Unable to attain this point.

Yes	?	No	Innovation & Design Process		5 Points	Discussion
		1	Credit 1.1	**Innovation in Design**	1	
		1	Credit 1.2	**Innovation in Design**	1	
		1	Credit 1.3	**Innovation in Design**	1	
		1	Credit 1.4	**Innovation in Design**	1	
1			Credit 2	**LEED® Accredited Professional**	1	Craig Swalling is a LEED Accredited professional.

Yes	?	No	Project Totals (pre-certification estimates)	69 Points
12	5	41		

Certified 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points

SUSTAINABLE DESIGN NARRATIVE

for

Green Hill School

Intensive Management Unit (IMU)

Chehalis, Washington

The BCRA Design Team analysis of the IMU finds that while the building may comply with many LEED requirements it is not practicable to meet ***any*** LEED standard. However, sustainable design concepts *will be* implemented throughout the design and construction of the new IMU building at Green Hill School.

The Design Team and the Stakeholders conducted a LEED Workshop. This Workshop provided a complete review of the Leadership in Energy and Environmental Design (LEED) Rating System, Version 2.2, as published by the U.S. Green Building Council (USGBC). The workshop revealed that LEED credits apply more directly to an office type building than they do to a maximum security correctional type of building. LEED credits that are desirable and achievable in an office type of setting are not desirable or practical in an IMU building. LEED professionals are discussing this issue, industry wide in North America, and are considering another 'lesser' category to accommodate this type of building.

Many design principals for a maximum security correctional type facility fight against sustainable design principles. For example, in an office building it makes sense to give occupants windows with direct views to the outside and give them enough glazing area to achieve a 2% daylighting factor. However, in an IMU, for security and maintenance concerns, it does not make sense to give the occupants the window placement or the amount of glazing that the LEED credits require. Another example, it makes sense in an office building to install sensor controlled low flow plumbing fixtures and other technologies that help the facility to minimize water usage. However, in an IMU, the plumbing fixtures need to resist clogging as a priority for safety and function. Other IMU design principles that go against sustainable principles are site lighting (bright lights for high security cause light pollution), vegetation for shading (shade trees block 'line-of-sight' views for security), energy performance (state codes requiring 100% exhaust in resident rooms obviates energy performance), recycled content (CMU and concrete have low or no recycled content), rapidly renewable materials, low-emitting adhesives, sealants and coatings (epoxy and other durable coatings and sealants will not achieve LEED requirements), and controllability of systems (not practical to allow residents to control lights, heat etc.).

During design and in construction of a building, the incorporation of LEED elements is not a precise science. The documentation required by USGBC to prove a LEED level of performance is tenuous and unpredictable at best. It is good practice to target 2 to 3 points higher than minimum LEED performance level target requirements. A "certified" (lowest) level of LEED is between 26-32 points. Therefore, a project aiming for a "certified" rating should be targeting a minimum of 28-29 points. The IMU (near end of DD is 18 Yes points w/ 6 Maybe points. Therefore, even if ALL of the maybe's became Yes (not very probable) our total would be 24 and we'd fall short of the required points. Anything less than 26 fails.

The IMU does achieve 70% of the lowest 'Certified' LEED level and, as such, should still be considered as a new building which incorporates sustainable principles. Sustainable principles are realized through the use of design strategies that enhance building performance, reduce operating costs, maintain long term value, increase indoor air quality and provide a connection to the outside environment to the maximum extent practicable. The IMU will provide a fully functional, practical environment to its occupants.

The IMU is deemed, by a USGBC Certified LEED AP as '*not practicable'* to meet any LEED standard.

End of IMU Sustainable Design Narrative

BCRA

GRAYS HARBOR COLLEGE

April 6, 2006

Alan E. Gozart AIA, Principal
Harbor Architects
504 South F Street
Aberdeen, WA 98520

Dear Mr. Gozart,

Pursuant to the 2/21/06 letter from John W. Lynch from the Department of General Administration (related to our request for exemption from LEED Silver certification), I am asking you to proceed with the design process for the Vocational Building Rehabilitation at Grays Harbor College. GA's position is that they are not able to grant an exemption to the LEED Silver certification level, and that the decision is entirely up to the agency.

Mr. Lynch's letter stated that exemptions are allowed by the new law where it is "not practicable" to reach the Silver level. Our position on this is that due to the timing of the new law, the funding request for the Vocational Building as well as the appropriation of funds occurred prior to the passage of the LEED Silver requirement. Thus, we did not receive sufficient funding for this added expense, and it is not practicable for us to comply. There were no funds budgeted to address any of the LEED Silver requirements, and incorporation of these requirements now (on top of greatly inflated building materials costs in the post-Katrina building environment we now live in) amounts to a serious budget cut. As you are aware, we are already having to take over $400,000 from another project to even make this project feasible. Please take into account any LEED Silver guidelines where they make economic sense and forgo any implementing requirements for certification.

Thank you in advance for your assistance in this matter,

Keith Foster
VP for Administrative Services
Grays Harbor College

cc: Ed Brewster, President GHC
John W. Lynch, Assistant Director GA
Jim Copland, Project Manager GA
Maris Grobins, Deputy Asst. Dir. GA
Stuart Simpson, Green Building Advisor GA
Barney Mansavage, SRG Partnership Inc.

STATE OF WASHINGTON
WASHINGTON STATE PATROL
8623 Armstrong Road SW • Olympia, Washington 98504-2626 • (360) 596-6000 • www.wsp.wa.gov

August 29, 2008

Mr. Stuart Simpson
Sustainable Building Advisor
Department of General Administration
Division of Engineering & Architectural Services
210 11th Avenue
PO Box 41000
Olympia WA 98504-1000

Dear Mr. Simpson:

RE: LEED Exemption Request

The Washington State Patrol is asking for an "Exemption" from the LEED Silver requirements for the new student dormitory being designed for the Fire Training Academy in North Bend.

This building will be located in a remote mountain location on an industrial/training facility used to train fire fighters and first responders. The environmental and site constraints of this location impact the LEED points that would be available in a city environment location. The architect is making every effort to minimize the environmental, energy and maintenance impacts in his design.

Because of the site location, and the minimal scope of work, the contractor resources expected to be interested in this project would be significantly limited by the necessity of the documentation required to meet the Silver LEED criteria. This would result in inflated bid proposals driving the cost of the construction beyond the budget.

In conclusion, WSP intends to design & build to the LEED requirements to the best of our abilities, but are limited by the programming and funding request for this new facility that occurred prior to the certification legislation and as a result there is inadequate funding to meet the reporting and documentation required by this program.

Sincerely,

CHIEF JOHN R. BATISTE

Mr. William F. Glaeser
Property Management Division

WFG:jsg
Enclosures: (1)
cc: Mr. Jim Gilbert, Facilities Management Section
Ms. Diane Perry, Management Services Bureau
Mr. Dennis Quinsey, Facilities Management Section

High-Performance Green Buildings

Exemption Declaration

[redacted]

Date: 6/16/2008

Submit to: sustainableba@ga.wa.gov

Project Name:	Fire Training Academy - Dormitory	Agency/Institution	225
Project Number:	2007-203	GA H-P Green Bldg. #	

	Name	Agency	Phone	E-Mail
Submitted By:	William Glaeser	Washington State Patrol	360-596-6000	william.glaeser@wsp.wa.gov

Conceptual Construction Cost Estimate	1.9 million
Total Facility Square Footage Estimate	9484 gsf
Project Location/Address	50810 Grouse Ridge Rd., North Bend, 98045

Facility Type Exemption*	Exempt Space Approx. %	Agency Representative Signature Block
Transmitter Building		
Pumping Station		
Hospital (not including skilled nursing)		Signature
Research Facilities with Laboratories		Name:
		Title:

"Not Practicable" Exemption**	Yes/No	Agency Representative Signature Block
The project will seek US Green Bldg. Council LEED Certification***	No	
The project will participate in the GA LEED QA process**	No	
The project will take no further action regarding LEED.	Yes	Signature
		Name: William F. Glaeser
		Title: Property Management Division Administrator

This Exemption Submittal includes the following:

Provide a one page description of why the exemption is being sought. [X]

Provide a LEED Checklist indicating which LEED Credits may be "practicable" for the project. [ ] LEED Score attempting [ ]

* If a "Facility Type" exemption is requested and verified, no further submittals are required.

** If a "Not Practicable" exemption is requested, the project should pursue LEED to the level that is "practicable" for the project. Projects are encouraged to participate in the GA LEED QA process and subsequent annual reporting of the energy and water/sewer consumption to GA. This will demonstrate a "Good Faith" effort consistent with the intent of RCW 39.35D. Complete the appropriate GA LEED QA forms as the project progresses through the design and construction process. Feedback from GA will help projects to achieve the proposed LEED goal and will help to maximize utility incentives.

Form Last Updated
April 2006

*** If the project continues to seek LEED Certification the project should also participate in the GA LEED QA process.

Yakima Valley Community College
Yakima Campus
South Sixteenth Avenue & Nob Hill Blvd. P.O. Box 22520 Yakima, WA 98907-2520 Phone: (509) 574-4600 FAX: (509) 574-6860

May 19, 2008

Mr. Stuart Simpson
Sustainability Coordinator
Department of General Administration
PO Box 41012
Olympia, WA 98504

Re: Brown Dental Clinic Renovation
State Project No. 2007-155

Dear Mr. Simpson:

This letter is to advise your office that Yakima Valley Community College is seeking exemption from the LEED Silver Certification requirement on the Brown Dental Clinic Renovation Project. This exemption is necessary because of the escalating costs of construction and equipment.

Although the college is taking this exemption, please be assured that our consultant team will pursue all LEED design principles to the greatest practical extent during development of this project.

I am attaching the following documents for your review:

- Exemption Declaration
- Description of why the exemption is necessary
- Updated LEED checklist

If you have any questions, please call me at (509) 574-4618 or email kudge@yvcc.edu.

Sincerely,

Karen Judge
Director of Capital Projects

Cc: sustainable@ga.wa.gov
Tom Henderson, Assistant Director, Capital Budget
David Lohrengel, E&AS Project Manager
Jeff Wood, Director of Facilities
Sheri Brockway, Architect

High-Performance Green Buildings

Exemption Declaration

Received by GA:

Date: 5/15/2008

Submit to: sustainableba@ga.wa.gov

Project Name:	Brown Dental Renovation	Agency/Institution	Yakima Valley Community College
Project Number:	2007-155 GA H-P Green Bldg. #		

	Name	Agency	Phone	E-Mail
Submitted By:	Karen Judge	YVCC	(509) 574-4618	kjudge@yvcc.edu

Conceptual Construction Cost Estimate $ 4,315,231 *Including Dental Equipment

Total Facility Square Footage Estimate 14,770

Project Location/Address Yakima Campus, Yakima Valley Community College

Facility Type Exemption*	Exempt Space Approx. %
Transmitter Building	
Pumping Station	
Hospital (not including skilled nursing)	
Research Facilities with Laboratories	

Agency Representative Signature Block

Signature

Name:

Title:

"Not Practicable" Exemption**	Yes/No
The project will seek US Green Bldg. Council LEED Certification***	No
The project will participate in the GA LEED QA process**	Yes
The project will take no further action regarding LEED.	

Agency Representative Signature Block

Karen Judge

Signature

Name: Karen Judge

Title: Director of Capital Projects

This Exemption Submittal includes the following:

Provide a one page description of why the exemption is being sought. [X]

Provide a LEED Checklist indicating which LEED Credits may be "practicable" for the project. [X] LEED Score attempting 36

* If a "Facility Type" exemption is requested and verified, no further submittals are required.

** If a "Not Practicable" exemption is requested, the project should pursue LEED to the level that is "practicable" for the project. Projects are encouraged to participate in the GA LEED QA process and subsequent annual reporting of the energy and water/sewer consumption to GA. This will demonstrate a "Good Faith" effort consistent with the intent of RCW 39.35D. Complete the appropriate GA LEED QA forms as the project progresses through the design and construction process. Feedback from GA will help projects to achieve the proposed LEED goal and will help to maximize utility incentives.

*** If the project continues to seek LEED Certification the project should also participate in the GA LEED QA process.

Form Last Updated April 2006

BROWN DENTAL RENOVATION
Yakima Valley Community College
State Project No. 2007-155

Due to ongoing increases in construction costs, equipment costs and the cost of relocating the program during construction the project is having budget difficulties. In the search for cost saving measures, several priorities were established which had to be maintained in order to achieve the goals for the program and College.

- **Maintain the size of the building as designed.** It was not considered an option to decrease the size of the building to reduce costs. The funding for the project was requested based on the need to serve additional students. The existing building is grossly undersized for the current program capacity; the design of the renovation project is required to increase the size of the building to properly serve those students, plus the additional students.

- **Provide dental equipment to serve the needs of the program.** The design for the project includes the use of both existing and new dental equipment. It was not considered an option to decrease the amount of dental equipment to be purchased for the building. The list of new equipment was developed based on the increase in program capacity and the need for replacement of aging, high maintenance equipment. To cut costs through a reduction in new equipment would risk under serving the students in the program and presenting the program with almost immediate equipment replacement problems.

- **Design the facility to campus standards.** The facility is being designed using low maintenance, long lasting materials. It was not considered an option to reduce costs through the use of lower cost materials that would provide a shorter life span and increase long term maintenance costs.

With the establishment of these priorities and the commitment of the College to increase the sustainability of its facilities, it has been determined that one cost saving measure that could be incorporated without affecting the overall project quality was to forgo documenting and certifying the project as a LEED project. The project will still be designed as a sustainable project to the LEEDS Silver standard, but without the certification or the costs associated with the required documentation, verification and coordination during the construction administration phase of the project.

The attached LEED NC Version 2.2 Checklist shows the credits (36 total) which will be integrated into the project.

LEED-NC

LEED-NC Version 2.2 Registered Project Checklist

Brown Dental Hygiene Building Renovation

Yakima Valley Community College

Yes	?	No		
9	2	3	**Sustainable Sites**	14 Points

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

Yes	?	No		
2		3	**Water Efficiency**	5 Points

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

Yes	?	No		
5	4	8	**Energy & Atmosphere**	17 Points

Y					
Y			Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required
Y			Prereq 2	**Minimum Energy Performance**	Required
Y			Prereq 3	**Fundamental Refrigerant Management**	Required
4	3	3	Credit 1	**Optimize Energy Performance**	1 to 10
		3	Credit 2.1	**On-Site Renewable Energy**	1 to 3
1			Credit 3	**Enhanced Commissioning**	1
		1	Credit 4	**Enhanced Refrigerant Management**	1
		1	Credit 5	**Measurement & Verification**	1
	1		Credit 6	**Green Power**	1

continued...

Yes	?	No		
3	2	8	**Materials & Resources**	13 Points

Y					
1			Prereq 1	**Storage & Collection of Recyclables**	Required
1			Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1
1			Credit 1.2	**Building Reuse**, Maintain 100% 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**, 10% (post-consumer + ½ pre-consumer)	1
		1	Credit 4.2	**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1
	1		Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured Regio	1
		1	Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured Regio	1
		1	Credit 6	**Rapidly Renewable Materials**	1
1			Credit 7	**Certified Wood**	1

Yes	?	No		
13	1	1	**Indoor Environmental Quality**	15 Points

Y	Y				
1			Prereq 1	**Minimum IAQ Performance**	Required
1			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required
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
	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

Yes	?	No		
4	1		**Innovation & Design Process**	5 Points

1			Credit 1.1	**Innovation in Design**: Green Building Education	1
1			Credit 1.2	**Innovation in Design**: Green Housekeeping	1
1			Credit 1.3	**Innovation in Design**: Integrated Pest Management	1
	1		Credit 1.4	**Innovation in Design**: Low-emitting furniture systems	1
1			Credit 2	**LEED® Accredited Professional**	1

Yes	?	No		
36	10	23	**Project Totals** (pre-certification estimates)	69 Points

Certified 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points