LEED-NC

UNIVERSITY OF WYOMING

LEED-NC Version 2.2:

Bim Kendall House, Haub School of Environment and Natural Resources

Yes ? No

Yes	?	No	Sustainable Sites		14 Points	Credit Requirements
Y			Prereq 1	**Construction Activity Pollution Prevention**	Required	ESC Plan conforming to EPA CGP.
1			Credit 1	**Site Selection**	1	Do NOT develop prime farmland, undeveloped floodplain, ESA or protected species habitat, wetlands, undeveloped 50 ft from water body, parkland (unless offset).
1			Credit 2	**Development Density & Community Connectivity**	1	Redevelop with minimum 60,000 sqft per acre OR renovate within 1/2 mile of residential zone w/10 units per acre and w/in 1/2 mile of 10 basic services.
		1	Credit 3	**Brownfield Redevelopment**	1	Develop on a contaminated site OR one characterized as brownfield.
1			Credit 4.1	**Alternative Transportation**, Public Transportation Access	1	1/2 mile from rail (existing or future) OR 1/4 mile from 2 or more usable bus lines.
1			Credit 4.2	**Alternative Transportation**, Bicycle Storage & Changing Rooms	1	Commercial-Secure bike racks or storage 200 yards from building for 5% of building users and showers for 0.5% of FTE. Residential-Covered bike storage for 15% of occupants.
		1	Credit 4.3	**Alternative Transportation**, Low-Emitting and Fuel-Efficient Vehicles	1	Low emitting vehicles for 3% FTE w/preferred parking, OR 5% Preferred parking for Low Emitting, OR Alternative fuel refueling stations for 3%.
1			Credit 4.4	**Alternative Transportation**, Parking Capacity	1	Commercial-Avoid exceeding minimum parking zoning and preferred for 5% for carpools OR 5% carpools for less than 5% FTE parking provided. Residential-Minimum zoning or less, facilitate shared usage. BOTH-No new parking.
1			Credit 5.1	**Site Development,** Protect or Restore Habitat	1	GREENFIELDS-Limit site disturbance to 40 ft beyond building perimeter, 10ft beyond walkways, 15ft beyond roadways, 25 ft beyond constructed permeable areas. PREVIOUSLY DEVELOPED-Restore and protect 50% of site area (excluding footprint) w/native plants. Vegetated roofs count.
1			Credit 5.2	**Site Development,** Maximize Open Space	1	O1-Reduce footprint, exceed openspace zoning requirement by 25%. O2-With no zoning, provide vegetated open space area adjacent to the building equal to footprint. O3-Zoning no openspace requirement-openspace =20% of project site.
		1	Credit 6.1	**Stormwater Design,** Quantity Control	1	O1-Existing Impervious<=50%-SW management plan preventing predevelopment discharge from surpassing post on 1 year, 2 year, and 24 hour storms. OR Implement a management plan that protects stream channel. O2->50%.Management plan that decreases water volume by 25%.
		1	Credit 6.2	**Stormwater Design,** Quality Control	1	Stormwater management plan which treats 90% of annual rainfall using BMPs. BMPs must remove 80% of TSS (Total Suspended Solids). BMPs must meet local standards or have documented performance data that is TARP compliant.
1			Credit 7.1	**Heat Island Effect,** Non-Roof	1	O1-Cover 50% or more of hardscape with shade, paving with SRI 29 or up, or open grid pavement. O2-50% covered parking with roof above SRI 29.
		1	Credit 7.2	**Heat Island Effect,** Roof	1	O1-Use Roof w/SRI standards on 75% of roof. O2-Vegetated roof 50%. O3-Combine both so that (AreaSRI/.75+Area Veg/.5)>=Total roof area.
1			Credit 8	**Light Pollution Reduction**	1	Interior-Max angle doesn't exit building OR Lighting on auto timers. Exterior-Minimize lighting-Don't exceed 80% of lighting power densities for exteriors and 50% for building facades and landscape.

Yes ? No

Yes	?	No	Water Efficiency		5 Points	Credit Requirements
2			Credit 1.1	**Water Efficient Landscaping**, Reduce by 50%	1	Beat by 50%. for landscaping features. Can include offsets from greywater, rainwater collection, etc.

		1	Credit 1.2	**Water Efficient Landscaping**, No Potable Use or No Irrigation	1	Eliminate use of potable water in landscaping. Can include offsets from greywater, rainwater collection, etc.
		1	Credit 2	**Innovative Wastewater Technologies**	1	O1-Reduce potable water in sewage by 50% through water conserving fixtures or non-potable water (collection or grey). O2-Treat 50% of water onsite to tertiary standards.
1			Credit 3.1	**Water Use Reduction**, 20% Reduction	1	20% reduction in internal water use relative to baseline based on occupancy level. Qualified fixtures include faucets, toilets, urinals.
1			Credit 3.2	**Water Use Reduction**, 30% Reduction	1	30% reduction in internal water use relative to baseline based on occupancy level. Qualified fixtures include faucets, toilets, urinals.

Yes	?	No				
12	0	1	**Energy & Atmosphere**		17 Points	**Credit Requirements**
Y			Prereq 1	**Fundamental Commissioning of the Building Energy Systems**	Required	Commissioning Agent (CxA) has at least two projects experience, CxA is independent of construction team on large projects (doesn't matter for small), report directly to owner, Incorporate CxA requirements into construction documents. Owner designs OPR, team designs BOD. Applies to HVACR, lighting, hot water, renewables systems. Building envelope suggested but not required.
Y			Prereq 2	**Minimum Energy Performance**	Required	Meet minimum ASHRAE standards. Mandatory provisions AND EITHER the prescriptive or Energy Cost Budget Method (ECBM).
Y			Prereq 3	**Fundamental Refrigerant Management**	Required	Zero CFC based refrigerants in HVACR. On retrofits projects, include a CFC phase-out plan (unless economics are worse than a 10 year SPB-Simple Payback).
7			Credit 1	**Optimize Energy Performance**	1 to 10	OPTION 1-New buildings--10.5% to 42% below baseline with one point per 3.5% increment. Existing buildings--3.5%-35% in 3.5% increments. Building energy simulation. OPTION 2 (4 Points)-Prescriptive compliance path-Building must be under 20,000sqft and office for this. OPTION 3 (1 Point)-Prescriptive compliance with Advanced Buildings Benchmark.
2			Credit 2.1	**On-Site Renewable Energy**	1 to 3	Meet 2.5% of on-site energy needs with on-site renewables. (1 point), 7.5%=2 points, 12.5% =3 points.
1			Credit 3	**Enhanced Commissioning**	1	In addition to EAp1, meet 6 steps. 1-Prior to construction document phase, have CxA in place. CxA must complete 2,3,and 6. Unlike EAp1, CxA must meet stringent CxA requirements from EAp1 regardless of project size. 2-CxA must conduct at least one commissioning design review of OPR, BOD, and design documents prior to mid-construction documents. 3-CxA must review contractor submittals. 4-Develop a systems manual for operating staff. 5-Verify training procedure for ops personnel. 6-CxA review of system operations 10 months after opening, include resolution plan for problems.
1			Credit 4	**Enhanced Refrigerant Management**	1	OPTION 1- Don't use refrigerants. OPTION 2-Use HVACR equipment that minimizes or eliminates ozone depleting substances (ODS) and global warming potential (GWP). Including leakage, LCGWP+LCODP*10^5<=100.
		1	Credit 5	**Measurement & Verification**	1	Develop and implement a measurement and verification (M&V) plan. M&V period should last at least 1 year post occupancy.
1			Credit 6	**Green Power**	1	35% of building electricity from green power for two years. Green power or RECs are appropriate.

Yes	?	No				
5	0	8	**Materials & Resources**		13 Points	**Credit Requirements**
Y			Prereq 1	**Storage & Collection of Recyclables**	Required	Provide and easily accessible area serving the entire building dedicated to collection and storage of recyclables-exclude hazardous materials.
1			Credit 1.1	**Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof	1	Maintain at least 75% based on surface area of existing structure. Includes structural floor, roof decking, and envelope (exterior skin and framing). Excludes windows, non-structural roofing materials, and hazardous materials. If an addition, is present it cannot be more than 2x existing sqft. If building doesn't qualify for this point, the materials can go toward MR 3.1 and 3.2 but no double counting.
1			Credit 1.2	**Building Reuse**, Maintain 95% of Existing Walls, Floors & Roof	1	Maintain at least 95% based on surface area of existing structure. Includes structural floor, roof decking, and envelope (exterior skin and framing). Excludes windows, non-structural roofing materials, and hazardous materials. If an addition, is present it cannot be more than 2x existing sqft. If building doesn't qualify for this point, the materials can go toward MR 3.1 and 3.2 but no double counting.

1			Credit 1.3	**Building Reuse**, Maintain 50% of Interior Non-Structural Elements	1	Use existing interior non-structural elements (interior walls, doors, floor coverings, and ceiling systems). 50% by area of completed building (including additions). If an addition, is present it cannot be more than 2x existing sqft. If building doesn't qualify for this point, the materials can go toward MR 3.1 and 3.2 but no double counting.
		1	Credit 2.1	**Construction Waste Management**, Divert 50% from Disposal	1	Recycle or salvage at least 50% of non-hazardous construction and demolition. Excavated soil and land clearing debris does not count for this credit. Calculations can be by weight or volume but must be consistent throughout.
		1	Credit 2.2	**Construction Waste Management**, Divert 75% from Disposal	1	Recycle or salvage at least 75% of non-hazardous construction and demolition. Excavated soil and land clearing debris does not count for this credit. Calculations can be by weight or volume but must be consistent throughout.
		1	Credit 3.1	**Materials Reuse**, 5%	1	Use salvaged, refurbished, or reused materials such that the sum of these materials constitutes 5%, based on cost, of the total value of materials on the project. Mechanical, electrical, and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation. Furniture is allowed as long as it is used consistently in MR3-7.
		1	Credit 3.2	**Materials Reuse**, 10%	1	Use salvaged, refurbished, or reused materials such that the sum of these materials constitutes 10%, based on cost, of the total value of materials on the project. Mechanical, electrical, and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation. Furniture is allowed as long as it is used consistently in MR3-7.
1			Credit 4.1	**Recycled Content**, 10% (post-consumer + ½ pre-consumer)	1	Use recycled materials such that the sum of the post-consumer recycled content plus 1/2 of the pre-consumer recycled content is equal to 10% of project based on materials costs. Recycled content value of an assembly is based on weight of recycled portion. Mechanical, electrical, and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation.
		1	Credit 4.2	**Recycled Content**, 20% (post-consumer + ½ pre-consumer)	1	Use recycled materials such that the sum of the post-consumer recycled content plus 1/2 of the pre-consumer recycled content is equal to 20% of project based on materials costs. Recycled content value of an assembly is based on weight of recycled portion. Mechanical, electrical, and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation.
		1	Credit 5.1	**Regional Materials**, 10% Extracted, Processed & Manufactured Regionally	1	Use materials extracted, processed, and manufactured within 500 miles of the project for 10% (based on project cost) of the total project materials. In assemblies, use percent weight of regional component times assembly cost. Mechanical, electrical, and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation.
		1	Credit 5.2	**Regional Materials**, 20% Extracted, Processed & Manufactured Regionally	1	Use materials extracted, processed, and manufactured within 500 miles of the project for 20% (based on project cost) of the total project materials. In assemblies, use percent weight of regional component times assembly cost. Mechanical, electrical, and plumbing components and specialty items such as elevators and equipment shall not be included in this calculation.
1			Credit 6	**Rapidly Renewable Materials:** 2.5% of all materials	1	Use rapidly renewable materials (typically from plants with a 10 year or less harvest cycle) for 2.5% of project materials based on cost.
		1	Credit 7	**Certified Wood:** 50% of all wood	1	Use a minimum of 50% Forest Stewardship Council (FSC) certified wood for all wood based materials and products on a cost basis. Only include permanently installed materials.

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Yes	?	No	Indoor Environmental Quality		15 Points	Credit Requirements
10	0	5				
Y			Prereq 1	**Minimum IAQ Performance**	Required	Meet minimum requirements of Sections 4-7 of ASHRAE 62.1-2004 . Design mechanical ventilation systems using the Ventilation Rate Procedure or the applicable local code, whichever is more stringent.
Y			Prereq 2	**Environmental Tobacco Smoke** (ETS) **Control**	Required	Option 1) Prohibit smoking in building and w/in 25 ft of entries, windows, and air handling. O2) No smoking w/in 25 ft or indoors except in designated areas w/ compliant ventilation and exhaust. O3) (Residential only)-No smoking in common areas or w/in 25 ft. Compliant control of smoke transfer.
		1	Credit 1	**Outdoor Air Delivery Monitoring**	1	Install permanent monitoring systems that provide ventilation feedback ensuring minimum performance. Configure equipment to alarm when conditions vary by 10% from set point. For mechanical HVAC: monitor CO2 in dense (25 people per 1000 sqft) areas between 3 and 6 feet above floor AND for non-dense areas, provide direct outflow measuring device maintaining accuracy w/in 15% of design minimum outdoor air rate from ASHRAE 62.1-2004. FOR NATURAL Ventilation: Monitor CO2 between 3 and 6 ft.
		1	Credit 2	**Increased Ventilation**	1	FOR MECHANICAL HVAC: Increase breathing zone outdoor air ventilation rates by 30% or more above ASHRAE 62.1-2004 standard from EQp1. FOR NATURAL HVAC: Design according to Carbon Trust Good Practice Guide 237 (1998). Use the flow diagram process of the Chartered Institution of Building Services Engineers (CIBSE) Applications manual 10:2005, Natural Ventilation in Non-Domestic Buildings. ALSO for Natural: AND Use diagrams and calcs to show design of natural ventilation meets CIBSE recs, OR use a macroscopic, multi-zone, analytic model to predict room by room airflow using minimum ventilation rate from ASHRAE 62.1-2004, chapter 6 for 90% of occupied spaces.
1			Credit 3.1	**Construction IAQ Management Plan**, During Construction	1	Develop IAQ plan including: 1) Meet SMACNA IAQ Guidelines for Occupied Buildings under Construction 1995 chapter 3. 2)Protect stored on-site or installed absorptive materials from moisture damage. 3)If permanently installed air handlers are used during construction, MERV 8 (Minimum Efficiency Reporting Value or better filtration media must be used at each return air grille. Replace media post occupancy and comply with ASHRAE 52.2-1999.
		1	Credit 3.2	**Construction IAQ Management Plan**, Before Occupancy	1	Implement an IAQ Management Plan for preoccupancy. OPTION 1) Flushout. After construction, before occupancy supply total air volume of 14,000 CF outdoor air per SQFT with temp @60 F or up and humidity below 60%. OR 3,500 CF before move in and 0.3CFM/SQFT 3 hours daily prior to occupancy until 14,000 has been met. OPTION 2) Air Quality Testing. IAQ testing after completion, before occupancy. This involves being below threshold on VOCs particulates, CO, etc. Conduct additional flushout where standard not met.
1			Credit 4.1	**Low-Emitting Materials**, Adhesives & Sealants	1	All adhesives and sealants used on the interior of the building must comply with referenced standards (SCAQMD)#1168.
1			Credit 4.2	**Low-Emitting Materials**, Paints & Coatings	1	Paints and coatings used in the building must comply with guidelines. For architectural paints, Green Seal standard GS-11, Paints, First Edition. For Anti-corrosive paints applied to metal, the standard is green seal GC-03. For Clear wood finishes, stains, and sealants, the standard is SCAQMD rule 1113.
1			Credit 4.3	**Low-Emitting Materials**, Carpet Systems	1	All installed carpet must meet VOC compliance standards from Green Label Program.
1			Credit 4.4	**Low-Emitting Materials**, Composite Wood & Agrifiber Products	1	All composite wood (including plywood and wheat board) and agrifiber products used in the building shall contain no added urea formaldehyde resins. Laminating adhesives used to fabricate on-site and shop-applied composite wood and agrifiber assemblies shall contain no added formaldehyde resins.

		1	Credit 5	**Indoor Chemical & Pollutant Source Control**	1	Design to minimize and control pollutant entry into building and cross contamination of regularly occupied areas.
1			Credit 6.1	**Controllability of Systems**, Lighting	1	Provide individual lighting control for 90% of building occupants allowing adjustments to suit individual needs. AND Provide lighting system controls for all shared multi-occupant spaces.
1			Credit 6.2	**Controllability of Systems**, Thermal Comfort	1	Provide individual thermal control for 50% of building occupants allowing adjustments to suit individual needs. Operable windows (conforming to ASHRAE 62.1-2004, paragraph 5.1) can be used in lieu of comfort control systems for occupants within 20 feet (depth) and 10 feet (side) of the window. AND Also provide comfort controls for multi-occupant spaces.
1			Credit 7.1	**Thermal Comfort**, Design	1	Design HVAC systems and building envelope to meet ASHRAE 55-2004. Demonstrate compliance in accordance with section 6.1.1, documentation.
1			Credit 7.2	**Thermal Comfort**, Verification	1	Implement a thermal comfort survey 6-18 months after occupancy. Should be anonymous. Agree to establish a plan for corrective action if 20% or more of occupants are dissatisfied.
1			Credit 8.1	**Daylight** Daylight 75% of Spaces	1	Option 1) Achieve a minimum glazing factor of 2% in 75% or more of regularly occupied areas. Option 2) Using computer simulation models, demonstrate 25 or more footcandles in 75% of occupied areas. Model must show 25 foot candles under normal clear sky conditions. Option 3) Demonstrate through daylight measurement that 25 footcandle minimum is met in 75% of spaces.
		1	Credit 8.2	**Daylight & Views**, Views for 90% of Spaces	1	Achieve direct line of sight to the outdoors via vision glazing between 2'6" and 7'6" above floor for 90% of occupants in regularly occupied areas. In plan view, areas must be in direct line of sight from perimeter glazing and in section view a direct line of sight can be drawn from area to perimeter glazing.

Yes	?	No				
4	0	1	**Innovation & Design Process**		**5** Points	**Credit Requirements**
1			Credit 1.1	**Innovation in Design**	1	Comprehensive Green Building Education
1			Credit 1.2	**Innovation in Design**	1	Student participation in green building design
1			Credit 1.3	**Innovation in Design**	1	Green cleaning products
		1	Credit 1.4	**Innovation in Design**	1	
			Optional	**Innovation in Design**	1	
			Optional	**Innovation in Design**		
1			Credit 2	**LEED® Accredited Professional**	1	At least one member of project team is a LEED Accredited Professional.

Yes	?	No		
44	0	22	**Project Totals** (pre-certification estimates)	**69** Points

Certified 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points