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December 16, 2014

RE: LEED BD&C Eshleman Green Cleaning, Design Phase Clarification Response

Attention: GBCI Reviewer

In the interest of satisfying the LEED BD&C requirements for Eshleman Hall, we, the ASUC Student Union (formerly known as the ASUC Auxiliary), intend to comply with campus standards for Green Cleaning. Please refer to the attached UC Berkeley Green Cleaning Program 2011. Our facilities are serviced by the Physical Plant Campus Services, whom originated this campus standard.

“Section 1.6 ‘Custodial Training and Staffing Procedures’ states that standard operating procedures for each campus building will specifically address cleaning to protect vulnerable building occupants. In situations where cleaning operations have the potential to adversely affect any identified members of a vulnerable population:

1. Daily cleaning activities will be scheduled appropriately to avoid exposure of vulnerable populations to the cleaning process.
2. Alternative cleaning practice will be adopted to minimize the unnecessary use of cleaning chemicals.
3. Cleaning chemicals will be used in areas only where sufficient ventilation is present to allow chemicals to dissipate before the area becomes repopulated.
4. Cleaning operations will be conducted in a manner that prevents the transfer of impacts to other area of the building that may contain vulnerable populations.”

Humbly submitted,

Sharay Pinero
Associate Director, Facilities
ASUC Student Union

University of California, Berkeley
CAMPUS GREEN CLEANING POLICY

The University of California, Berkeley (UCB) is committed to providing a healthy and safe work environment for all building occupants, campus community and custodial staff who provide daily building cleaning service, while reducing the university's environmental impact. The goal of this Green Cleaning Policy and Plan is to reduce the exposure of building occupants and maintenance personnel to potentially hazardous chemical, biological and particle contaminants, which adversely impact air quality, health, building finishes, building systems and the environment.

This policy outlines sustainability criteria for cleaning products, supplies, tools, equipment and practices at UCB in an effort to promote healthy indoor air quality, increase occupant wellbeing and comfort, assure building cleanliness, and provide a safe environment for custodial staff. Since custodial products, supplies and tools are purchased in bulk for all buildings on campus, this policy will guide the practices of all academic buildings at UCB excluding those otherwise defined as exempted spaces in this policy. All in house staff and outsourced service providers are required to comply with this policy.

1. Scope:

1.1. **Cleaning Products:** All custodial products must meet one of the sustainability criterion outlined in LEED EB: O&M IEQ Credit 3.3 as well as the following UC Berkeley standards.

1.1.1. **IEQc3.3: Green Cleaning, Purchase of Sustainable Cleaning Products and Materials Criteria:**

- The cleaning products meet one or more of the following standards for the appropriate category:
 - Green Seal GS-37, for general-purpose, bathroom, glass and carpet cleaner use for industrial and institutional purposes
 - Environmental Choice CCD-110, for cleaning and degreasing compounds
 - Environmental Choice CCD-146, for hard-surface cleaners
 - Environmental Choice CCD-148, for carpet and upholstery care.
- Disinfectants, metal polish, floor finishes, strippers or other products not addressed by GS-37 or Environmental Choice CCD-110, 146, or 148 shall meet at least one of the following standards for the appropriate category:
 - Green Seal GS-40, for industrial and institutional floor-care products
 - Environmental Choice CCD-112, for digestion additives for cleaning and odor control
 - Environmental Choice CCD-113, for drain or grease-trap additives
 - Environmental Choice CCD-115, for odor-control additives
 - Environmental Choice CCD-147, for hard-floor care
 - California Code of Regulations maximum allowable VOC levels for the specific product category.

- Disposable janitorial paper products and trash bags meet the minimum requirements of one or more of the following programs for the applicable product category:
 - U.S. EPA Comprehensive Procurement Guidelines for Janitorial Paper and Plastic Trash Can Liners
 - Green Seal GS-09, for paper towels and napkins
 - Green Seal GS- 01, for tissue paper
 - Environmental Choice CCD-082, for toilet tissue
 - Environmental Choice CCD-086, for hand towels
 - Janitorial paper products derived from rapidly renewable resources or made from tree-free fibers.
- Hand soaps meet one or more of the following standards:
 - No antimicrobial agents (other than as a preservative) except where required by health codes and other regulations (i.e., food service and health care requirements)
 - Green Seal GS-41, for industrial and institutional hand cleaners
 - Environmental Choice CCD-104, for hand cleaners and hand soaps.

1.1.2. **UC Berkeley Standards:**

1.1.3. As defined by UCOP Policy of Sustainable Practices,

“The University will work to phase in Green Seal certified products through its Strategic Sourcing and local campus procurement programs in coordination with EH&S, Facilities Management, and Housing and Residential Services.”

- 1.1.4. When Green Seal certified products are not available due to specific cleaning tasks, cleaning products must comply with the California Code of Regulation maximum allowable VOC levels. Custodial business manager will work with the procurement office and outside vendors to research the use of a more environmentally friendly product than the current cleaning agent.
- 1.1.5. Multi-purpose cleaner with Ready to Dilute (RTD) system must be used for the following tasks: mopping hard floors, cleaning windows, restrooms, offices, glass, chalk boards and wipe-down surfaces in order to reduce the amount of products needed, thereby reducing possible confusion or misuse of chemical products.
- 1.1.6. Dilution system must attach directly to faucet in custodial closet with NO use of HOT water in order to promote easy dilution of chemicals and reduce injury and exposure of custodial staff and building occupants to possible spillage and chemical odors. Image-based dilution instructions must be used to ensure accurate use.
- 1.1.7. Carpet cleaner must use ingredients such as Hydrogen Peroxide that allow for cleaning without fumes associated with aggressive acids.
- 1.1.8. All cleaning products must be approved by the Physical Plant Campus Services- Safety (PPCS-Safety) office and/or Environmental Health & Safety (EH&S) office before cleaning use at UCB. Custodial staff and management must not bring or use unapproved cleaning products at UCB.

APPROVED PRODUCT LIST

The products listed below are approved for use. Products beyond those listed here must be submitted for approval prior to use.

Product Type	Manufacturer/Product Name	Sustainability Criteria Met
Cleaner	Stainless Steel Cleaner**	Soy bean based
Dust Mop and Rag	Microfiber / Mop 24'' and 36''	Reduces chemical use
Cleaning Chemicals	ALPHA HP Green Cleaning Chemicals	GS-37

- 1.2. **Cleaning Supplies and Hand Hygiene:** All custodial supplies must meet one of the sustainability criterion outlined in LEED EB: O&M IEQ Credit 3.3 as well as the following standards:
- 1.2.1. Hand soaps in all campus restrooms must not contain antimicrobial agents, except where required by health codes and other regulations. All soap dispensers must be ADA compliant. Per regulations, hand-hygiene notices will be placed in all employee rest rooms.
 - 1.2.2. Paper dispensers must meet UCB Campus standard.
 - 1.2.3. Paper towels must be 100% post consumer content.
 - 1.2.4. Toilet paper must be 100% post consumer content.
 - 1.2.5. Plastic trashcan liners must be at least 10% post consumer content.
- 1.3. **Cleaning Tools:** All custodial tools must meet the following standards:
- 1.3.1. Microfiber products must be used for dust mops, wet mops, high dusters, and hand dust cloths in order to eliminate the use of disposable and chemically treated cleaning tools as well as reduce injury to custodial staff.
 - 1.3.2. Microfiber cleaning cloths must be color coded for different tasks in order to prevent contamination. Colors coding is as follows:
 - Red: Restrooms
 - Green: Offices
 - Blue: Glass and public spaces
 - Yellow: Classrooms
 - 1.3.3. All buildings using microfiber products must have access to washer and/or dryer system.
- 1.4. **Cleaning Equipment:** All new custodial equipment must meet the guidelines in LEED EB: O&M IEQ Credit 3.4 as well as the following UC Berkeley standards.
- 1.4.1. **IEQc3.4: Green Cleaning, Sustainable Cleaning Equipment Criteria:**
- Vacuum cleaners meet the requirements of the Carpet and Rug Institute “Green Label” Testing Program— Vacuum Cleaner Criteria and are capable of capturing 96% of particulates 0.3 microns in size and shall operate with a sound level less than 70dBA.

- Carpet extraction equipment for restorative, deep cleaning is certified by the Carpet and Rug Institute’s “Seal of Approval” Testing Program for deep-cleaning extractors.
- Powered floor equipment—e.g., electric and battery-powered floor buffers and burnishers—is equipped with vacuums, guards and/or other devices for capturing fine particulates, and operates with a sound level less than 70dBA.
- Propane-powered floor equipment has high-efficiency, low-emission engines with catalytic converters and mufflers that meet California Air Resources Board (CARB) or Environmental Protection Agency (EPA) standards for the specific engine size, and operate with a sound level of less than 90dBA.
- Automated scrubbing machines are equipped with variable-speed feed pumps and onboard chemical metering to optimize the use of cleaning fluids. Alternatively, the scrubbing machines use only tap water with no added cleaning products.
- Battery-powered equipment is equipped with environmentally preferable gel batteries.
- Powered equipment is ergonomically designed to minimize vibration, noise and user fatigue.
- Equipment is designed with safeguards, such as rollers or rubber bumpers, to reduce potential damage to building surfaces.

1.4.2. **UC Berkeley Standards**

- 1.4.3. Vacuums must meet the requirements of the Carpet and Rug Institute “Green Label” testing program. All vacuums must be capable of capturing 96% of particulates .3 microns in size and operate with a sound level less than 70dba. Vacuums must be equipped for carpet and hard surface floors in order to create better indoor environmental quality and reduce task time. Vacuum type shall enable a team cleaning process, reducing the amount of equipment as well as repair cost.
- 1.4.4. Buffers, Burnishes, and Automatic Scrubbers will be equipped with devices for capturing fine particulates and operate with a sound level below 70dba. All floor equipment must have rubber bumpers in order to reduce damage to building surfaces. All high-speed buffers must be 2000 RPM and equipped with dust control.
- 1.4.5. Auto scrubbers must use the ECHO water technology system when available, or use Green Cleaning Chemicals, producing higher shine, longer lasting floor finish and a slip resistant surface.
- 1.4.6. Equipment purchased must be ergonomically designed to minimize vibration, noise, user fatigue and injury.
- 1.4.7. All equipment powered by batteries must use environmentally friendly gel/water batteries
- 1.4.8. Equipment Maintenance log must be kept by equipment technician for all power cleaning equipment including all repair and maintenance activity. Maintenance service will be provided for equipment upon request by lead/area custodial supervisor.
- 1.4.9. Equipment Inventory log must be kept by lead/area custodial supervisors including equipment location by building and closet number. Lead/area

custodial supervisors must conduct an inventory annually and provide an updated log to inventory control management.

- 1.4.10. Equipment Management logs must be kept including date of purchase, discontinued equipment, equipment evaluation, and equipment training details.

Record-keeping

A log shall be kept for all powered cleaning equipment to document the date of purchase and all repair and maintenance activities. Vendor cut sheets for all equipment used onsite shall be stored onsite. When cleaning equipment replacement is necessary, acquisition dates and supporting documentation shall be retained to demonstrate that all newly acquired equipment complies with the specifications.

APPROVED EQUIPMENT LIST

The equipment listed below is approved in the event of new equipment acquisition. Equipment beyond that listed here must be submitted for approval prior to acquisition.

<INCLUDE BUILDING-SPECIFIC EQUIPMENT IN THE TABLE BELOW.>

Equipment Type	Manufacturer/Model	Sustainability Criteria Met
e.g., Vacuum	Windsor VS 14	CRI Green Label, dBA less than 70
Vacuum	Proteam CM 300	Less than 90 dba **include or not
Wet/Dry Vacuum	Tennant 3500	Less than 90 dba **

1.5. Hard-Floor and Carpet Maintenance

- 1.5.1. The floor and carpet maintenance program is designed to use few, or no, harmful chemicals; remove and eliminate irritating dust, dirt and other contaminants; and protect and preserve floors.
- 1.5.2. Carpet cleaner must use ingredients such as Hydrogen Peroxide that allow for cleaning without fumes associated with aggressive acids.
- 1.5.3. All floor equipment must have rubber bumpers in order to reduce damage to building surfaces, and dust control.
- 1.5.4. Auto scrubbers must use the ECHO water technology system when available, or use Green Cleaning Chemicals, producing higher shine, longer lasting floor finish and a slip resistant surface.

- 1.6. **Custodial Training and Staffing Procedures:** UCB custodial staff receives ongoing training on the current campus cleaning protocol and new procedures. Each campus building must follow specific requirements for staffing based on building type and frequency of cleaning tasks performed. Standard operating procedures must specifically address cleaning to protect vulnerable building occupants such as occupants with asthma, other respiratory conditions, or sensitive skin. All custodial staff and supervisors must be trained on the following procedures:

- 1.6.1. Chemical product use and proper mixing and dilution of concentrated chemicals to ensure safe usage and proper building maintenance.
- 1.6.2. Technical and ergonomic use of equipment to reduce injury and increase custodial efficiency and productivity.
- 1.6.3. Proper handling, disposal or recycling and replenishment of cleaning materials, chemicals, dispensing equipment and packaging
- 1.6.4. Proper handling, sorting and disposal of trash and recycling.
- 1.6.5. Proper reading and understanding of MSDS sheets as well as made aware of their locations within custodial closet.
- 1.6.6. Hazardous and blood borne pathogens
- 1.6.7. Asbestos
- 1.6.8. Emergency preparedness
- 1.6.9. Lifting
- 1.6.10. Harassment

1.7. Safe Storage and Handling: UCB custodial staff and management must abide by the following safety procedures:

- 1.7.1. All cleaning products must be approved by the PPCS-Safety office and/or EH&S office before cleaning use at UCB. Custodial staff and management must not bring or use unapproved cleaning products at UCB.
- 1.7.2. Biannual inspections of custodial wet and dry closets by lead/area custodial supervisors must be conducted including closet condition and proper organization of chemical products and equipment.
- 1.7.3. Annual chemical inventory must be conducted in all custodial wet and dry closets as required by EH&S.
- 1.7.4. All product and other containers must be labeled to eliminate confusion over contained chemical.
- 1.7.5. Log of MSDS sheets must be kept in custodial wet and dry closets
- 1.7.6. Cleaning chemicals must NOT be mixed with HOT water to reduce injury and increase energy savings campus wide.
- 1.7.7. PPCS Plumbing Shop shall be responsible for plumbing containment drains in all laboratory facilities. If hazardous liquid wastes are present, PPCS Plumbing Staff must contact EH&S hotline for appropriate disposal.

1.8. Entry Way Program

- 1.8.1. Buildings must have 10ft total of exterior and/or interior grills, grates or floors mats in place at entrances to reduce dirt and particulates from entering the building. If 10ft of linear space is not available, entry way mats, grates or grills must be designed to take this into account. Emergency exits, private offices and entry ways not in use are excluded.
- 1.8.2. Interior mats must be 100% recycled material.
- 1.8.3. Entry way mats must be cleaned once per week.
- 1.8.4. Entry way floors must be dust mopped/vacuumed or swept once per week. Spot mopping shall be done as needed everyday.

- 1.8.5. Entry way floors must be wet mopped once per week.
- 1.8.6. Floors, stairs and landings located in entry and breeze ways must be washed and have dust tags removed from all walls, ceilings and corners.

1.9. Building Occupant and Custodial Feedback

- 1.9.1. Building Occupants must have the opportunity to evaluate and provide input and feedback annually on custodial technologies, procedures and process.
- 1.9.2. All products and equipment must be evaluated prior to use/implementation by custodial staff, lead/area supervisors and custodial management in to ensure the highest satisfaction.
- 1.10. **Exempted Spaces:** International House, Recreational Sports Facility, Alumni House, Cal Housing and Dining, and ASUC are exempted from this policy due to separate custodial organizational structures.

2. Future Program Goals: UCB is currently working on the following goals and will continue to develop new goals with an increased knowledge of available green cleaning practices.

- 2.1. Purchase 100% biodegradable and compostable trashcan liners.
- 2.2. Provide hand sanitizer dispensers for all public spaces.
- 2.3. Continue developing hand hygiene strategies educational outreach, waterless hand sanitizers and hands free paper towel dispensers.
- 2.4. Replace outside building dumpsters with totters and/or tippers to reduce injury to custodial staff and improve efficiency in garbage disposal.
- 2.5. Standardize paper towel, toilet paper, hand soap, and toilet seat cover dispensers in every campus restroom.
- 2.6. Install green floors mats inside and outside campus buildings to reduce contaminant load from people entering the buildings, prevent possible injury due to slippage and reduce exposure of building occupants and custodial staff to hazardous chemicals affecting air quality, human health, building finishes, building systems as well as the environment.
- 2.7. Bring exempt spaces to follow same practices as rest of campus
- 2.8. UCB will continue to test green products for stripping and waxing floors, cleaning graffiti, and other specialized cleaning methods.
- 2.9. UCB will continue to identify and use environmentally friendly, low impact chemicals in its cleaning practices as well as reduce building occupants and custodial staff to chemical hazards.
- 2.10. UCB's target date for implementing the Campus Green Cleaning Policy in all campus buildings is July 1, 2011.

3. Performance Metrics:

- 3.1. Documentation of chemical type, volume and concentration in all cleaning processes must be maintained.
- 3.2. Documentation of the frequency of each cleaning process must be maintained.

- 3.3. Records and documentation of custodial staff training, occupant feedback and other strategies must be maintained.
- 3.4. Equipment Maintenance log must be kept by equipment technician for all power cleaning equipment including all repair and maintenance activity. Maintenance service will be provided for equipment upon request by lead/area supervisor.
- 3.5. Equipment Inventory log must be kept by lead/area custodial supervisors including equipment location by building and closet number. Lead/area custodial supervisors must be conducted annually and an updated log must be provided annually to inventory control management.
- 3.6. Equipment Management logs must be kept including date of purchase, discontinued equipment, equipment evaluation, and equipment training details.

4. Responsible Parties

Personnel involved with various elements of the green cleaning program shall carry out their tasks according to this policy, and report all relevant activities to the aforementioned parties. To ensure an effective and coordinated effort, the building staff responsible for overseeing the Green Cleaning Policy and Plan shall review all proposed cleaning activities before implementation.

- 4.1. *Purchasing of Products, Supplies, Tools & Equipment:*
 - 4.1.1. Ali Mansour (Business and Operation Manager, PPCS)
- 4.2. *Procurement Office*
 - 4.2.1. Ralph Evans (Manager- Procurement, Contracts, and Storehouse, PPCS)
 - 4.2.2. Dave Monson (Purchasing Supervisor, PPCS)
- 4.3. *Custodial Equipment Maintenance*
 - 4.3.1. Jesus Mendoza (Equipment Technician, PPCS)
- 4.4. *Equipment Inventory Control Management*
 - 4.4.1. Ali Mansour (Business and Operation Manager, PPCS)
- 4.5. *Lead/Area Custodial Supervisors¹*
 - 4.5.1. Day shift: Jim Mathwin
 - 4.5.2. Area C: Teresa Ochoa
 - 4.5.3. Area D: Nick Figeira
 - 4.5.4. Area E: Gerald Sousa
 - 4.5.5. Area F: Melvin McCowan
 - 4.5.6. Contract Area: Ali Mansour
- 4.6. *Custodial Training*
 - 4.6.1. Ali Mansour (Business and Operation Manager, PPCS)
 - 4.6.2. Javier Rodriguez Aguilera (Evening Operations Manager, Custodial Services)
- 4.7. *Chemical Inventory & Other Safety*
 - 4.7.1. Jim Gilson (Assistant Manager- Safety, EH&S)
 - 4.7.2. Robert Krambuhl (Senior Associate Director- Operations/Department Safety Liaison, PPCS)
 - 4.7.3. Robert Newell (Associate Director- Grounds, Custodial, & Environmental Services, PPCS)
- 4.8. *Entry Way Program*

¹ See *Custodial Services Area- Supervisor Assignment* sheet for building assignments

4.8.1. Ali Mansour (Business and Operation Manager, PPCS)

5. **Time Period:** This policy will remain in effect going forward from its inception date, September 1, 2010 and will continue to be updated accordingly.