




Green Cleaning Manual

Building & Residential Services
Campus Services, Emory University



Green Cleaning Procedures

Overview

- A. Procedure Modification
- B. People with Special Needs
- C. Dusting & Dust Mopping
- D. Entryways
- E. Floor care
- F. Carpet Care
- G. Flood Areas: Cafeteria, Break rooms, etc.
- H. OSHA Blood-Borne Pathogen Standard
- I. Measuring/Diluting Concentrated Cleaning Products
- J. Indoor Plants
- K. Recycling
- L. Restrooms
- M. Spills
- N. Trash
- P. Staff and Training
- O. Green Products/Equipment

In general, cleaning in a green way is similar to traditional procedures. The differences are more a matter of focus than one of technique. Thus, this is not a "how to" document but rather it gives us opportunities to modify traditional procedures to reduce impacts on *health and the environment*.

A. Specific Procedure Modifications

While this section will be alphabetized based on subject, the first issue to be addressed is dealing with the needs of people with special needs at Emory University. This issue not only emphasizes the focus on protecting health, but also epitomizes the green maintenance focus and need for involvement throughout our facilities at Emory.

B. People with Special Needs

The practices below shall be implemented with a target goal of identifying and resolving issues for all sensitive parties.

Action Items:

- 1. Identify those building occupants with individual needs and sensitivities*
- 2. Develop a plan to address the individual needs of people with sensitivities*
- 3. Change products and/or cleaning schedules as necessary to accommodate their individual needs*
- 4. Address ventilation requirements to help mitigate the problems.*

One of the primary goals of a green cleaning program is to protect the health of building occupants.

This is done in many ways including the identification and removal of harmful contaminants, such as particulates, mold spores, bacteria and viruses. And while the cleaning process can reduce exposure to these and other harmful contaminants, unfortunately, the process of cleaning and cleaning products themselves can cause adverse health impacts from building occupants. This is especially true for those who are very sensitive to odors, those with pre-existing health conditions such as asthma and allergies, those with reduced immune systems such as those recovering from cancer, and other health conditions.

For these individuals accommodations must be made relative to cleaning activities such as noise levels, dust, etc. Some may be very sensitive to the fragrances of cleaning products. In many of the new green formulated products, dyes and fragrances have been eliminated. In some cases reported sensitivities may not even be caused by cleaning products, but rather sensitivities to pet allergens from guide dogs and even co-workers' household pets. Understanding the sensitivities is essential for accommodating the occupants. In some cases different products may be necessary, in other cases the time of day that cleaning takes place may need to be altered and in other cases occupants who are reacting to their co-workers may need to be relocated to other areas within the building.

While in some cases changing the cleaning products or cleaning schedule may address the situation, in other times relocating the individual or reconfiguring their workspace may be necessary. In many situations these issues cannot be resolved by Building & Residential Services, but requires everyone, including the affected individual, to work together to achieve the best outcome.

C. Dusting and Dust Mopping

Cleaning and maintenance shall consistently be performed according to written protocols, without exception. Quality Control checks will be used to ensure 100% adoption.

Action Items:

- 1. Use lint-free (micro fiber) dust mops*
- 2. Use wide area vacuums fitted with appropriate bags/filters, as much as possible*
- 3. Use lint-free (micro fiber) dusting cloths or a vacuum instead of feather dusters*

Traditional dusting and dust mopping techniques frequently move dust and other contaminants from one area to another, such as from a bookshelf to the floor. It is important to recognize that moving the dust around is more than just an efficiency issue. Dusting and dust mopping activities that do not capture soils frequently stir them into the air where people can then inhale the particles, which for some can become a serious health hazard.

In addition to the traditional procedures for dusting and dust mopping it is preferable to minimize chemical dust treatments. It is preferable to use a vacuum cleaner fitted with a wide area hard floor attachment as compared to a dust mop treated with a high VOC content solvent. The widest swivel action mop possible (based on the size of area and the physical abilities of the custodial worker) and a water based dust mop treatment is preferred if dust mopping is performed. Feather dusters should not be used. It is preferable to dust with lint-free damp clothes (micro fiber) that are neatly folded like a handkerchief to expose multiple sides for absorbing dust (for recommendations on vacuums and dusting compounds see the section of product selection).

DUST MOPPING

- Fill a properly labeled trigger spray bottle with water.
- Spray water on a clean micro fiber dust mop. Do not use too much water.
- Dust mop the area, use a continuous motion, without lifting the mop from the floor.
- Begin with the mop next to the wall. Walk to the other end of the work area. At the opposite end, pivot the dust mop so that the leading edge remains the same. Return to the opposite end. Overlap the previously mopped path by 2 to 4 inches, to ensure complete coverage.
- One pass with a micro fiber dust mop removes dirt, dust and abrasive particles, without leaving the floor dull or slippery. Sweep accumulated soil to a collection area, lightly shake loose soil from the dust mop, and continue. Remove gum, tape or other sticky residue with a scraper, using care not to mar or scratch the floor finish. Continue the dust mopping process until the entire area has been dust mopped. When completely finished, pick up the collected debris using a counter brush and dust-pan.
- Clean excess dust from the mop head. Place the mop over a trash container. Brush with a stiff bristle brush in a firm, downward motion.

- Store the mop in a hanging position. DO NOT store the dust mop on the floor.
- When the dust mop no longer attracts soil, wash it.
- Launder soiled dust mop heads. Rinse thoroughly, wring out and hang to dry or dry in a dryer making sure not to use a fabric softener.

D. Entryways

Entryway maintenance shall consistently be performed according to written protocols below, without exception. Quality Control checks will be used to ensure 100% adoption.

Action Items:

- 1. Clean entryways beginning outside the building*
- 2. Use walk-off matting outside and inside entry. Vacuum and sweep these mats frequently, especially during inclement weather*
- 3. Make sure mopping solutions are kept clean using only the correct amount of cleaning chemical (see section on product selection). Do not overuse concentrated cleaning chemicals. Remake as necessary and dispose spent solution appropriately*
- 4. Use appropriate vacuums (see section on product selection). Dispose of captured material or empty bags before half full. Dispose appropriately*

Entryways are the first line of defense against contaminants. Thus, special effort should be focused in these areas. Begin by cleaning outside walkways leading into the facility. This is especially true during inclement weather.

Large outside entryway areas can be swept daily (weather permitting) with a mechanized sweeper and smaller areas with a large, high quality push broom. Outdoor areas should be periodically cleaned with a high-pressure power washer. During snow and ice, procedures need to be put in place to first protect occupants and visitors from slips and falls. The selection of the appropriate ice melting compounds that will not be tracked into the building is important.

Use walk-off mats both outside the entryways, as well as just inside the doors. Mats should be long enough so that as an adult walks across the mat each foot hits the mat at least twice (typically a minimum of ten to twelve feet). Walk-off mats should not just be used during inclement weather, but all year round. Vacuum walk-off mats at least daily and more frequently in high traffic entryways using an upright vacuum and vacuum in both directions. Walk-off mats must be cleaned frequently and don't forget to periodically clean underneath them as well.

E. Floor Care

FLOOR CARE – GENERAL MAINTENANCE

Floor maintenance shall consistently be performed according to written protocols below, without exception. Quality Control checks will be used to ensure 100% adoption.

Action Items:

- 1. Select appropriate metal-free floor finishes that are extremely durable to minimize the need for stripping and recoating*
- 2. Build a solid base, which can be between 6 and 12 coats for a 20% solid floor finish*
- 3. Develop a system to maintain floors on a daily basis, using walk-off mats, dust mopping and/or vacuuming*
- 4. Develop an interim restoration program to maintain adequate levels of floor finish and appearances*

The procedures for floor care in a green maintenance program are similar in most instances with those of a traditional program. Beyond the traditional issues, floor care in a green maintenance program addresses the selection of environmentally preferable products and equipment, along with some minor modifications of the procedures themselves.

In a green maintenance program the primary effort should be a pollution prevention strategy, or one that minimizes the need to strip and recoat a floor, or extract a carpet. Keep outside entryways clean to prevent soils from being tracked into the facility. This may include sweeping, use of a power sprayer, etc.

Use entry mats to capture soils and moisture from shoes. It is preferable that the mats be large enough for each shoe to hit the mat two times (approximately ten to twelve feet). Frequent vacuuming of entryway mats and grating systems is necessary.

Frequent dust mopping of resilient tile floors is necessary, especially close to entryways and other sources of particulates (i.e. near copier rooms). Periodically clean under floor mats to reduce the potential for moisture that could lead to bacterial and fungal growth. When floor mats get wet, they should be replaced with dry mats.

In general, an intensive cleaning focus on the entryways is to capture soils at the entries rather than to remove it after it has spread throughout the entire facility. When floors and carpets need to be spray buffed or spot cleaned, solutions should be applied from a sprayer in a stream, instead of fine mist. This will minimize the amount of material that is atomized and potentially inhaled, as well as minimize over-spray. When floors and carpets need to be stripped, recoated or extracted; it is important that occupants be notified. It is preferable to use the least toxic products possible. Use the least amount of water and ventilate the area with fans if necessary for rapid drying to minimize both the possibility of mold growth and slip-fall incidents.

It is preferable to conduct major cleaning activities on a weekend or some other extended time period when occupants will not be in the facility. This allows maximum time for the building to be ventilated (flushed with fresh air) prior to the return of the occupants.

FLOOR CARE - FLOOR STRIPPING

Floor stripping shall consistently be performed according to written protocols below, without exception. Quality Control checks will be used to ensure 100% adoption.

Action Items:

- 1. Notify occupants beforehand if a strip-out is scheduled*
- 2. Select the least toxic products available (see section on product selection). Mix and use products according to manufacturer's directions*
- 3. Use the appropriate personal protective equipment. Gloves, goggles and non-slip footwear are a must. Aprons, respirators may be necessary depending on products selected*
- 4. Ventilate both during and after stripping*

The procedure for floor stripping is similar in most instances with those of a traditional program.

Beyond the traditional issues, floor care in a green maintenance program addresses the selection of environmentally preferable products and equipment, along with some minor modifications of the procedures themselves.

In a green maintenance program the primary effort should be a pollution prevention strategy or one that minimizes the need to strip and recoat a floor, or extract a carpet. Thus, a specific focus should be on preventative measures, such as keeping outside entryways clean to prevent soils from being tracked into the facility. This may include sweeping, use of a power sprayer, etc.

Use entry mats to capture soils and moisture from shoes. It is preferable that the mats be large enough for each shoe to hit the mat two times (approximately ten to twelve feet). Frequent vacuuming of entryway mats and grating systems are needed. Frequent dust mopping of resilient tile floors, especially close to entryways and other sources of particulates (i.e. near copier rooms).

Periodically clean under floor mats to reduce the potential for moisture to lead to bacterial and fungal growth. Floor mats should be replaced when they get wet with dry mats.

In general, an intensive cleaning focus on the entryways is to capture soils at the entries rather than to remove it after it has spread throughout the entire facility.

When floors and carpets need to be spray buffed or spot cleaned, solutions should be applied from a sprayer in a stream, instead of a fine mist. This will minimize the amount of material that is atomized and potentially inhaled, as well as minimize over-spray. When floors need to be stripped, recoated or extracted, it is important that occupants be notified. It is preferable to use the least toxic products possible (see the section on product selection). Use the least amount of water and ventilate the area with fans if necessary for rapid drying to minimize both the possibility of mold growth and slip-fall incidents.

It is preferable to conduct major cleaning activities on a weekend or some other extended time period when occupants will not be in the facility. This allows maximum time for the building to be ventilated (flushed with fresh air) prior to the return of the occupants.

FLOOR STRIPPING

1. Prepare the area. Place "Floor Hazard" signs at entrances to the area being stripped. Move furniture. Work around heavy furniture or equipment that cannot be moved. Sweep the floor with a clean dust mop. Remove gum, tape and other foreign materials with a scraper using care not to mar or scratch the surface finish.
2. Prepare equipment. Assemble two mop heads and handles. Label one "**Strip Mop**". Label the other "**Rinse Mop**". Assemble two mop buckets and wringers. Label one "**Strip Bucket**". Label the other "**Rinse Bucket**". Place black or high productivity stripping pad on the rotary floor machine. Fill the **Strip Bucket** with a solution of floor stripper (see section on product selection) following manufacturer's recommendations for dilution rates and water temperature. Fill the **Rinse Bucket** with clean, cold water. Add a small amount of a neutral pH cleaner (see section on product selection) following manufacturer's recommendations for dilution rates. Equip a wet vacuum with a floor squeegee tool. Place the equipment in the area where the work will begin.
3. Apply stripping solution to the floor, using the **Strip Mop** and **Strip Bucket**. Dip mop in stripping solution. Lift mop and allow excess stripper to drain back into the bucket. Fan out the mop head on the floor and apply stripping solution along the edges. Continue applying solution using an arc motion from right to left, covering the area between the edges. Apply sufficient solution to thoroughly wet the floor, but DO NOT flood it. (Adequate solution coverage will allow a match or toothpick to float on the surface.) Do not allow solution to dry on the floor. Re-apply as necessary to keep the floor wet. Immediately wipe off splashes from walls, baseboards, glass partitions, etc. with a damp cloth. Allow solution to remain on the floor 5 to 10 minutes. Re-apply as necessary to keep the floor wet.
4. Scrub the floor with the rotary floor machine and stripping pad. Scrub in a circular motion, from side to side. Overlap the strokes made by the machine. Keep the floor wet. Re-apply solution as necessary.
5. Remove the stripping solution from the floor with the wet vacuum and floor squeegee tool. Examine the floor for complete finish removal. Re-strip any areas with residual gloss.
6. Rinse the floor. Apply rinse solution using the **Rinse Mop** and **Rinse Bucket**. Apply sufficient water to thoroughly wet the floor, but DO NOT flood it. Remove the rinse solution from the floor using the wet vacuum and floor squeegee tool.
7. Damp mop the floor with clean water. Empty the **Rinse Bucket** and refill with clean water. Rinse the **Rinse Mop** with clean water. Damp mop the floor with clean water. Remove Floor hazard signs only when floor is completely dry.

FLOOR CARE - RESTORATION // BUFFING & BURNISHING

Floor maintenance shall consistently be performed according to written protocols below, without exception. Quality Control checks will be used to ensure 100% adoption.

Action Items:

1. *Make sure that adequate floor finish exists. Determine if it is time for a scrub and*

recoat

- 2. Select the appropriate restoration product. Water-based or low VOC products are recommended (see section on product selection)*
- 3. Apply in a stream or coarse spray to minimize amount that gets in the air to breathe and overspray. Do not over apply*
- 4. Select the appropriate equipment (see section on product selection). If burnishing use a vacuum attachment. Use appropriate buffing/burnishing pads*

Floor maintenance can make an enormous impact on the environment and the health of building occupants. The removing of floor finishes is perhaps one of the most labor intensive and hazardous of all major maintenance operations, placing both cleaning personnel and occupants at risk. Furthermore, frequent stripping introduces significant amounts of environmental impacts through both the use and disposal of products.

Thus, the objective of a green floor maintenance program is to minimize the frequency of stripping/removing and maximize the longevity of the coatings. The restoration process plays a huge factor in the longevity of the coating.

To maximize the longevity of a floor care program, make sure that there is a solid foundation of finish on the floor. Dry buffing and burnishing acts like sand paper and increases the appearance by removing layer after layer to smooth out the surface – the smoother the surface, the shiner the appearance. However, if too much floor finish is removed, then dry buffing and burnishing can actually damage floor tile and increase particles into the air, which can harm health.

When selecting products for restoration, use those that are water-based or low in VOC's (see section on product selection). When applying the restorer from a spray bottle, use a stream or coarse spray. Do not use a fine mist as this increases the potential for fine particles to enter the breathing zone and minimizes over-spray on walls, furniture, carpets, etc.

Match the appropriate pad to the equipment and floor finish. Especially when using high-speed burnishers, it is important to use vacuum attachments to minimize particles in the air. Minimize the amount of finish that is being removed.

F. Carpet Care

CARPET CARE – GENERAL MAINTENANCE

Carpet maintenance shall consistently be performed according to written protocols below, without exception. Quality Control checks will be used to ensure 100% adoption.

Action Items:

- 1. Ensure that vacuums are in good working order using appropriate bags and/or filters*
- 2. Vacuum bags should be emptied or replaced when half full. Dispose properly*
- 3. Clean up spills while they are still fresh*
- 4. Minimize the amount of moisture used during cleaning*

The procedures for carpet care in a green maintenance program are similar in most instances with those of a traditional program. Beyond the traditional issues, carpet care in a green maintenance program addresses the selection of the appropriate products and equipment (see section on product selection), along with some minor modifications of the procedures themselves.

In a green maintenance program the primary effort should be a pollution prevention strategy, or one that minimizes the need to extract a carpet. Thus, a specific focus should be on preventative measures, such as:

- Keep outside/outdoors entryways clean to prevent soil from being tracked into the facility. This may include sweeping, use of a power sprayer, etc.
- Use entry mats to capture soil and moisture from shoes. It is preferable that the mats are large enough for each shoe to hit the mat two times (approximately ten to twelve feet).
- Frequent vacuuming of entryway mats and grating systems.
- Frequent dust mopping of resilient tile floors, especially close to entryways and other sources of particulates (i.e. near copier rooms) to reduce soiling on
- surrounding carpeted areas.
- Establish a specific daily routine for cleaning carpets.
- Establish an interim cleaning process to address the needs of high traffic areas.
- Minimize the need for large scale extraction cleaning.

When carpets need to be spot cleaned, solutions should be applied from a sprayer in a stream or coarse spray, instead of a fine mist. This will minimize the amount of material that is atomized and potentially inhaled, as well as minimize over-spray. When carpets need to be extracted, it is important that occupants be notified. It is preferable to use the least toxic products possible. Use the least amount of water and ventilate the area with fans if necessary for rapid drying to minimize both the possibility of mold growth and slip fall incidents.

It is preferable to conduct major cleaning activities on a weekend or some other extended time period when occupants will not be in the facility. This allows maximum time for the building to be ventilated (flushed with fresh air) prior to the return of the occupants.

CARPET CARE – EXTRACTION CLEANING

Action Items:

- 1. Minimize the amount of cleaning chemicals. Excess chemicals result in rapid re-soiling*
- 2. Use appropriate functioning equipment that will maximize the amount of water being extracted from the carpet to minimize moisture and potential for mold, mildew and bacterial growth*
- 3. After extraction of carpet areas that were flooded spray treat the area with a disinfectant solution (e.g., Micro-Ban) to prevent mold, mildew, and bacteria growth*
- 4. Increase ventilation, open windows if weather allows and use fans to dry carpets quickly. Carpets should be completely dry within 24 hours*
- 5. Dispose of cleaning solutions properly*

Carpets can act as a "sink" that allows particles and other unwanted material to filter down into the backing of the carpets. Once deep down in the carpet they can lead to damage of the fibers and the need to ultimately replace the carpets. But from a health perspective, the biggest enemy of a healthy indoor environment is when moisture provides an opportunity for these unwanted contaminants to become biologically active.

Thus, extraction cleaning can get deep down into the carpets and remove the unwanted contaminants. Unfortunately, extraction cleaning can also add large amounts of water to the carpet, especially if the equipment is not functioning properly. Select appropriate cleaning solutions (see section on product selection). Mix cleaning solution properly.

Using too much concentrated cleaner not only wastes product, but also can lead to more rapid re-soiling of the carpet. Do not apply too much solution. Make sure that the vacuum pick-up is working properly and that there are no holes or leaks in wands or other attachments that decreases suction. When vacuuming up spent solution, repeat the process multiple times in both directions.

Use increased ventilation to help dry carpets. This can be accomplished by opening windows when weather permits, increasing building ventilation and using floor level drying fans. Carpets should dry within 24 hours to minimize the potential for bacteria and other potentially harmful organisms to grow.

Occupants should be notified before large-scale extraction procedures are used as this activity can affect more sensitive individuals. Proper scheduling is recommended when building is not to be occupied such as before weekends and holidays. Building should also be ventilated or flushed with fresh air prior to being reopened.

G. Food Areas: Cafeterias, Break rooms, Etc.

Cleaning and sanitization in food areas shall consistently be performed according to written protocols below, without exception. Quality Control checks will be used to ensure 100% adoption.

Action Items:

- 1. Clean and sanitize floors, tables, etc. See section on product selection for recommended products*
- 2. Separate recyclables from trash and make sure recyclable areas are kept clean (i.e. rinse soda cans) not to attract pests*
- 3. Make sure that occupants understand how to properly separate trash and recyclables and proper disposal of each*
- 4. Make sure that waste containers are covered and emptied at least daily*

Particular attention should be paid to food waste, trash receptacles containing food debris, recyclables such as soda cans, and other objects that contain food residues, which can attract pests. Making every effort to eliminate those things that attract pests is critical to protecting occupant health by reducing or eliminating the need for pesticides inside the building. Ask occupants to rinse out food and drink containers before placing in recyclable collection. Refrigerators used by occupants for their personal use should be emptied and cleaned periodically by the occupants. Integrated pest management (IPM) should be followed.

H. OSHA Blood-Borne Pathogen Standard

Handling of spills in compliance with the OSHA Blood-Borne Pathogen Standard shall consistently be performed according to written protocols below, without exception. Quality Control checks will be used to ensure 100% adoption.

Action Items:

- 1. Use safety cones or other means to make sure that occupants do not come in contact with spill*
- 2. Use proper personal protective equipment (i.e. gloves, goggles)*
- 3. Disinfect area with appropriate solution*
- 4. Dispose properly in a red bag*

While OSHA required training does not deviate in a green maintenance program, special attention must be given. The Blood-Borne Pathogen Standard requires the use of an intermediate grade disinfectant that is tuberculocidal (kills TB), and effective against the Hepatitis B Virus (HBV).

Each of these disinfectant products is very effective at killing both HBV and HIV 1 (AIDS) the two target organisms of concern. However, these same products tend to have more health and environmental impacts than other possible disinfectant/sanitizers that may be desirable for general cleaning. However, because the OSHA Standard specifies the use

of these more aggressive products, they must be used.

Thus, in a green maintenance program, it is recommended that a product specifically meeting OSHA's requirements be used along with all of the specified procedures, and this product must be separate from the products and procedures used for general disinfecting/sanitizing. This separation will meet OSHA requirements, and differentiate the procedures for the different types of disinfecting/sanitizing. This reduces the potential for confusion and reduces overall health and environmental impacts.

I. Measuring/Diluting Concentrated Cleaning Products

Dilution systems and chemical concentrates shall be wholly utilized for the following product types:

Action Items:

- 1. Use appropriate protective equipment when mixing concentrated cleaning products*
- 2. Follow manufacturer's dilution directions. Do not under- or over-dilute concentrated cleaning products*
- 3. Make sure that spray bottles (secondary containers) have appropriate labels*
- 4. Never mix different cleaning products together*

Highly concentrated cleaning products reduce environmental impacts from packaging and transportation, and typically reduce actual use cost compared to less concentrated alternatives. However, to gain the environmental benefits and to protect workers exposed to these more highly concentrated products during mixing, extra care should be used. Products should always be diluted accurately according to manufacturer's directions. This can be achieved through a variety of methods including measuring cups, simple dispensing pumps and more complicated automated dilution equipment. Dilution equipment should be periodically checked for accuracy.

Cleaning personnel should understand that adding extra concentrated cleaning product does not make the product work better or faster. Doing this wastes products and the associated product expense, but also can result in longer times to do the job (i.e. removing residues), slippery floors and surfaces, and other complications. Finally, never mix cleaning products together.

J. Indoor Plants

Action Items:

- 1. Educate occupants on appropriate care guidelines for indoor plants*
- 2. Ensure that plants are not in direct contact with carpets and unit ventilators.*

Indoor plants are a wonderful addition to any facility. While the cleaning contractor is typically not responsible for watering and caring for office plants, they frequently are called upon to address spills from watering, mold growth in carpets from dampness, aphids and

other pests, and other problems.

Furthermore, occupant's use of plants with pesticides and fertilizers should be managed with care because these products can impact health. Thus, occupants should be educated on the proper and appropriate care for plants. This is an ideal communication issue for the Stewardship Task Force. If plants are on carpets they should be blocks underneath to keep moisture from building up in carpeting. Unit ventilators should not be used as plant stands.

K. Recycling

The recycling program shall consistently be implemented in all campus facilities according to the protocols listed below. Quality Control checks will be used to determine effective adoption.

Action Items:

- 1. Ensure that the building collection meets with the guidelines from the local recycling hauler and recycling facility*
- 2. Ensure that occupants understand what can be recycled and how it needs to be separated*
- 3. Food containers such as soda cans should be rinsed clean by occupants before placing in recycling containers so as to not attract pests*
- 4. Track recycling results*

Recycling is a very important pollution prevention activity to reduce our burdens on the environment as a result of both solid waste disposal and the extraction of the natural raw materials. The recycling effort is guided by regulations and mandated including EPA's Comprehensive Procurement Guidelines. Check with local waste haulers and recyclers to determine what materials are picked-up and for the best sorting strategies. Currently, employees are asked to collect the following materials for recycling:

- Clear, green and brown glass bottles and jars
- White office paper (e.g., copier, bond, computer)
- Mixed office paper (e.g., ledger paper, folders, pamphlets, brochures, envelopes)
- Newspaper
- Cardboard
- Telephone and other books
- Scrap metal including steel containers
- Fluorescent lamps
- Toner and ink jet cartridges
- Batteries, floppy disks, compact discs (CDs)
- Microfilm and recording tape
- Carpet
- Ceiling tiles
- Computer equipment

One of the primary keys to making the recycling effort work, especially in a way that is efficient for both cleaning personnel and occupants is to develop some clear facility goals

and procedures. To accomplish this, it is important to work with the Stewardship Task Force and facility management to support training and other efforts to engage the occupants in this effort.

It is important to enlist the occupants to sort their recyclables and to make clear what recyclables are to be collected and where they are to be placed. Recyclables that contain food such as soda or soup cans, should be rinsed out by the occupants prior to being placed in collection bins to minimize the potential for attracting pests (i.e. ants and cockroaches). Maintenance personnel should not be required to separate recyclables from trash. It is important that both the Stewardship Task Force and facility management work to support the recycling efforts and to address the issue of non-compliance by individuals who frequently contaminate the mix.

L. Restrooms

Protocols promoting the effective cleaning of restrooms shall be consistently performed. Quality Control checks will be used to ensure 100% adoption.

Action Items:

- 1. Make sure sanitizing and disinfecting solutions are prepared and used properly (i.e. dwell time) and remix as required*
- 2. Frequently clean surfaces that hands touch to eliminate the spread of germs (i.e. door knobs, light switches, handles, etc.)*
- 3. Frequently eliminate moisture*
- 4. Keep floors dry to eliminate slip and falls and the build-up of bacteria, mold and mildew*

While procedures for cleaning restrooms in a green maintenance program are similar to those in a traditional cleaning program, because of their heavy use and moisture, restrooms must be cleaned frequently using appropriate cleaning products (see section on product selection).

Make sure that cleaning is done thoroughly, including hard to reach areas such as behind toilets and around urinals. Periodically machine scrub restroom floors with a sanitizer or disinfectant (see section on product selection). Make sure that label directions for appropriate chemical dwell times are followed to allow germ-killing activities to be thorough. Dwell time for many sanitizers and disinfectants is ten minutes.

Many products used in the restroom can be quite hazardous, such as drain cleaners and toilet bowl cleaners (see section on product selection). Make sure that appropriate personal protective equipment is used. **Never mix products.**

Use large trash cans to minimize overflow and reduce the frequency for policing the area.

RESTROOM CLEANING –

Clean from high to low, towards the doorway, and do dry work before wet work.

- A. Check supply cart for proper equipment and supplies.
- B. Prepare the area. Place a “*Restroom Closed*” sign at the door, if applicable.
- C. Clean the exterior of all dispensers and re-stock supplies, including paper towel dispensers, feminine hygiene dispensers, toilet tissue dispensers and hand soap dispensers.
- D. Remove trash from all waste receptacles. Clean receptacles with a sanitizer cleaner. Replace liners.
- E. Dust mop or sweep the floor, and pick up collected debris with dustpan.
- F. Clean all sinks using sanitizer cleaner and abrasive sponge. Leave sanitizer on surfaces according to manufacturer's directions.
- G. Clean all mirrors with water and soft, clean micro fiber cloths.
- H. Clean and sanitize all toilets and/or urinals. Remove urinal screens from the urinals and using the bowl swab, push water level down in stools. Apply bowl cleaner to the exposed interior surfaces of the bowls and/or urinals, specifically under the rim. Allow time for the chemical to work while cleaning partitions and showers (approximately 10 minutes - follow manufacturer's directions).
- I. Remove graffiti from walls and stall partitions. Clean stall partitions and walls as needed with disinfectant cleaner.
- J. Clean both sides of entrance/exit doors with a sanitizer cleaner, paying special attention to clean hand contact areas.
- K. Scrub the inside of the bowls and urinals with a bowl swab. Use an abrasive sponge for difficult soils. Clean the exterior of the bowls and urinals with disinfectant cleaner. Clean both sides of the toilet seat. Clean the walls around the bowls or urinals with disinfectant cleaner. Flush bowls and urinals. Polish all chrome surfaces with a dry micro fiber cloth (after cleaning with sanitizer cleaner).
- L. Scrub the floor with a sanitizer cleaner using a wet mop, bucket and wringer. If needed, scrub floor grout with a tile and grout brush. Rinse with clear water. Squeegee or vacuum up water, if necessary.
- M. Treat sink, shower or floor drains with drain maintainer, if necessary.

N. Inspect your work. If you are satisfied with your work, allow the floor to dry and re-open the restroom. Return cart to supply area and restock.

M. Spills

Handling of spills shall consistently be performed according to written protocols below, without exception. Quality Control checks will be used to ensure 100% adoption.

Action Items:

- 1. Clean spills while still fresh*
- 2. Use the proper cleaning solutions and use only what is necessary*
- 3. Dispose properly*
- 4. Ensure that occupants know whom to contact in case of spills*

Generally it is preferable to address spills as soon as possible to minimize impacts on both health and the environment. Work with building occupants to communicate quickly to address spills.

N. Trash

Trash management shall consistently be performed according to written protocols below, without exception. QC checks will be used to ensure 100% adoption.

Action Items:

- 1. Ensure that trash, especially trash which contains food waste, is removed frequently and is not left in buildings over an extended period of time (i.e. weekends or holidays)*
- 2. Dispose properly and ensure that trash does not attract pests, birds, etc. nor create litter*
- 3. Make sure that trash and recyclables are being separated properly*
- 4. Make sure occupants know how to separate recyclables*

Trash should be handled like any traditional program. If it is not pulled and disposed every day (in many cases totally unnecessary) it should be pulled and disposed before weekends and holidays to minimize the opportunity to attract pests.

O. Staffing and Training

All cleaning staff and managers shall receive environmental safety and health training, addressing, at minimum, hazards associated with the use, disposal and recycling of cleaning chemicals, dispensing equipment and packaging. We educate and train our employees on the proper procedure, on appropriate products, usage, and handling of equipment for their health and safety and the health and safety of the building occupants.

Semi-annually training will be conducted for current employees and new employees will be trained as they are hired on the Green Cleaning Process.

Training Topics:

- *Employee safety and health compliance as it relates to the cleaning program*
- *Regulatory compliance standards—OSHA, EPA, and other local, state, and federal rules and regulations*
- *Unsafe attitudes and conditions in the work place through Job Safety Analysis—OSHA JSA or JHA (Job Hazard Analysis)*
- *Employee performance improvement, such as accident prevention and record-keeping*
- *Compliance with health and safety rules, and regulation and confidentiality issues*
- *Safe chemical storage and handling*
- *Disposal and recycling of cleaning chemicals, dispensing equipment and packaging*
- *Floor Care Systems*
- *Mop System*
- *Microfiber Technology*
- *Vacuums and Carpet Care*
- *Paper Products*
- *Recycling System*
- *Composting System*

Staffing Plan:

To meet cleaning objectives within the building, minimum staffing requirements must be met. Factors such as occupancy rates, seasonal variations and other considerations should be taken into account when adjusting the staffing plan.

Under typical conditions, total cleaning staff time shall be not less than 6 hours per day. Generally, <x> staff members work <x> hours per day to meet these requirements.

P. Green Products and Equipment

CLEANING PROCEDURES

ENTRYWAYS

- Trash – empty, remove and spot wipe
- Dust low and high
- Spot clean doors, walls and glass
- Vacuum walk-off mats
- Dust mop tile floor
- Damp mop tile floors

CORRIDORS

- Trash – empty, remove and spot wipe
- Dust low and high
- Spot clean walls, doors, carpeting
- Vacuum carpet

BREAKROOMS & KITCHENETTES

- Trash – empty, remove and spot wipe
- Dust low and high
- Damp wipe tables, chairs, counters w/disinfectant solution
- Spot clean walls, doors and glass
- Refill dispensers
- Dust mop floors
- Damp mop floors

STAIRS

- Dust low and high
- Spot clean doors, walls, railings, etc
- Sweep or vacuum steps
- Damp mop

RESTROOMS

- Trash – empty, remove and spot wipe
- Sanitize and clean sinks, showers, commodes and urinals
- Clean all mirrors
- Dust vents and light fixtures
- polish, shine and clean all stainless steel and chrome
- Clean walls and partitions
- Refill all tissue, paper towel and soap dispensers as needed

- Sweep floor
- Mop and disinfect floor

LOUNGES, STUDY HALLS / CONFERENCE ROOMS

- Trash – empty, remove and spot wipe
- Dust high
- Dust and spot clean furniture
- Spot walls, doors, carpeting etc
- Vacuum carpet

Product Name	Description	Environmental Status
Oxy Orange SC	Concentrated environmentally friendly many surface cleaner/degreaser, glass cleaner, grout cleaner, carpet spotter/cleaner	Green Seal Certified
Super Shine-All	Concentrated all purpose cleaner	Green Seal Certified
Kaiblooley	Low foaming restroom cleaner used w/kaiVac	Green Seal Certified
Kaio	Environmentally friendly ph neutral cleaner used w/KaiVac	Green Seal Certified
East 365 General Purpose Cleaner	Concentrated foam cleaner used w/auto scrubbers	Green Seal Certified
Envior Shine ZF		
Envior Strip	Environmentally friendly zinc free floor finish	Green Seal Certified
Pro Link Optimum Green Foam Hand Soap	Foam hand soap for wall & counter mount dispensers (Phasing in use of product)	Green Seal Certified
GP 2930P Cormatic Roll Paper Towels	100% Recycled	EcoLogo Certified
Cormatic High-Capacity Roll Towel Dispenser	Hands Free Dispenser - no batteries (Phasing in use of product)	Green Friendly
Compact Coreless 2-Ply Bathroom Tissue	100% Recycled	EcoLogo Certified
Flat Mop System	Micro-fiber mopping system (Phasing in use of product)	Green Friendly
Micro Fiber Cloths	Micro wipes for sinks, glass, etc.	LEED-EB Points
Entrance Mats	Matting program for all buildings and/or locations	LEED-EB Points
Vacuum Cleaners	Upright and backpack units w/HEPA filters or high filtration systems	Carpet Industry Green Label Approved
Host Liberator Carpet Cleaner	Dry Carpet Cleaner	EPA Approved & LEED-EB Points
Host Extra	Biodegradable Dry Carpet Cleaner.	USDA BioBased Certified
KaiVac & KaiZen	All Purpose No-Touch Cleaning System	LEED-EB Points

For reference, a current list of Green Seal Certified products can be found at the following link:
<http://www.green seal.org/findaproduct/index.cfm#cleaners>.

All purpose cleaners, carpet cleaners, and general degreasers:

- pH: Prefer those with a neutral pH (closer to 7) as compared to those with extreme pH (closer to 1 or 14)
- Biodegradability: Prefer those that are readily biodegradable as compared to those that are slower to degrade. Unfortunately, many older formulations use excellent performing ingredients that have been found to have serious environmental and health concerns (see ingredients to avoid).
- Dyes & Fragrances: Prefer those with no or low levels of dyes and fragrances compared to those products that are heavily dyed or fragranced. If dyes are necessary use those that are approved for foods and cosmetics (F&C).
- VOCs: Prefer those that have no or low VOC as compared to alternatives with higher levels. Consider detergent based products compared to those containing solvents.
- More Preferable Ingredients: surfactants containing terms such as lauryl, amides, and glycosides
- Less Preferable Ingredients: Nonyl Phenol Ethoxylates, NTA, EDTA, glycol ethers, sodium hydroxide, potassium hydroxide, sodium metasilicate, phosphates.

Bathroom cleaners and bathroom disinfectants:

- pH: Prefer those with a more neutral pH as compared to those with extreme pH (closer to 1). Bathroom cleaners may fall more in the range of pH 4 as compared to traditional products that may have a pH below 1.
- Dyes & Fragrances: Prefer those with no or low levels of dyes and fragrances compared to those products that are heavily dyed or fragranced. If dyes are necessary use those that are approved for foods and cosmetics (F&C).
- Biodegradability: Prefer those that are readily biodegradable as compared to those that are slower to degrade. Unfortunately, many older formulations use excellent performing ingredients that have been found to have serious environmental and health concerns (see ingredients to avoid).
- More Preferable Ingredients: surfactants containing terms such as lauryl, amides, glycosides, citric or acetic acid.
- Less Preferable Ingredients: nonyl phenol ethoxylates, NTA, EDTA, hydrochloric acid, phosphoric acid.