

Basics of Green Cleaning Training Manual

July 2009

Disclaimer:

The training is for informational purposes only, and is based on information available during its development. The information contained in this training course is subject to revision as new information becomes available. OGS makes no guarantees of results and assumes no responsibility or liability whatsoever in connection with the use of this training material.

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Basics of Green Cleaning

Notes:

S e c t i o n 1

Introduction/Pre-Test

This section will address:

- ☆ Introduction
- ☆ Training objectives
- ☆ Pre-test
- ☆ Quick reference card

Introduction

The Basics of Green Cleaning course is one of several green cleaning training courses developed by the New York State Office of General Services (OGS). OGS designed this training course primarily for operations and maintenance staff at the supervisory and custodian level. The course presents material on the following:

- Sources of soil in a facility;
- Physical/chemical characteristics of soil;
- Microorganisms;
- Reducing bacterial and viral (microorganism) infections in school;
- Disinfectants/sanitizers;
- Green cleaning products and equipment;
- “Levels of Clean” or “Service Levels”;
- Basic cleaning methods ;
- General frequency of cleaning tasks.

Notes:

Training Objectives

Terminal Objective

The terminal objective of this training course is to establish a working knowledge of the basic principles of green cleaning, including an introduction to green cleaning products and practices.

Enabling Objectives

Upon training completion, participants will be able to describe or list:

- Three sources of soil in a facility;
- The main chemical property of soil for knowledge in selecting the right cleaner;
- Three soils that are most effectively cleaned with an acid cleanser/detergent and three soils that are most effectively cleaned with a alkaline cleanser/detergent;
- Three of the most familiar microorganisms and ways to reduce the number of microorganism infections;
- Three issues regarding the use of disinfectants;
- Three benefits of green cleaning products;
- The four categories of green cleaning products on the OGS-Approved Green Cleaning Products List;
- Two types of high-performance equipment used in green cleaning;
- One way to prevent soil from entering a facility and suggested requirements;
- The concept of “Levels of Clean”;
- Three benefits of defining “Levels of Clean”;
- Two wiping methods used in cleaning;
- The difference between dry-mopping and wet/damp-mopping;
- Routine cleaning/maintenance tasks required for a good cleaning program; and
- Tasks that can be delayed by using good daily routine cleaning.

Notes:

Pre- and Post-Test

- Before the start of the course, a multiple-choice test (pre-test) will be given to determine each participant's current level of knowledge of the course content.
- At the end of the training course, participants will take another multiple-choice test (post-test).
- The scores of these two tests will be compared to determine the effectiveness of the training material and identify improvements and changes to better instruct users.

Training Course Reference Card

If you have not done so already, please download the Basics of Green Cleaning quick reference card from the Customizable Documents and Templates section of the New York State Green Cleaning Program website. The reference card will be a helpful resource to use as you progress through the course, and will reinforce key points of the training.

Review of Section 1

- This section presented an introduction of what the course will cover.
- Course objectives were stated.
- Pre- and post-tests were explained.

Notes:

Basic Green Cleaning

This section will address:

- ★ Products and equipment used in green cleaning
- ★ Sources of soil
- ★ Chemical property of soil
- ★ Microorganisms
- ★ Disinfectants/sanitizers
- ★ Products and equipment used in green cleaning
- ★ Levels of clean
- ★ Entryways
- ★ Basic cleaning methods/practices
- ★ Basic worker safety
- ★ Cold or hot water for cleaning
- ★ Typical facility cleaning frequencies

Products and Equipment Used in Green Cleaning

Green cleaning programs rely on the use of environmentally-sensitive chemical products and high performance cleaning equipment. Green cleaning products and equipment clean as effectively as traditional products while minimizing adverse impacts on people's health and the environment. A number of years ago, many green cleaning products were not as effective and cost more than traditional products. However, over time green cleaning products have become as effective as traditional products and now cost about the same. Today, most green products undergo rigorous certification tests by organizations like Green Seal, Inc. and Ecologo to assure they are effective and safe for the consumer and environment. In addition, cleaning equipment manufacturers have also made advancements in producing products that better capture and remove soil than equipment made several years ago. Advancements include the development of microfiber cloths and mop heads, and special filters on vacuum cleaners called high efficiency particulate air (HEPA) filters.

Notes:

Required Green Cleaning Products for New York State Schools and Agency Use

New York State has taken a progressive role in mandating the use of green cleaning products in both schools and state agencies through legislation (Chapter 584 of the Laws of 2005—*The New York State Green Cleaning Law*) and Executive Orders 4. OGS has established the [Green Cleaning Guidelines and Specifications](#) and created the [OGS-Approved Green Cleaning Products List](#). Both are available for view on the [New York State Green Cleaning Program website](#).

High Performance Green Cleaning Equipment

Green cleaning requires the use of high performance cleaning equipment. The following are examples of high performance equipment and their importance, compared to traditional products, in green cleaning:

- Microfiber cloths, mop heads and dusters:
 - Absorb and pick up more soil;
 - Trap soil within the microfibers and keeps it from re-depositing on surfaces;
 - Reduce the amount of chemicals needed and used; and
 - Can be laundered and reused repeatedly.
Note: When laundering microfiber clothes, mop heads and dusters, do not bleach or place in a dryer, both of which can damage microfiber material.
- Green Label-certified vacuums with HEPA filters:
 - HEPA filters improve indoor air quality by removing 99.9% of small air particles down to 0.3 microns in size (25,400 microns are in one inch); and
 - Meet the performance standards of the Carpet and Rug Institute.
Note: The Green Label Certification Program introduced in 2000 will officially be phased out in 2010 at which time a new joint program—the Carpet and Rug Institute (CRI) Seal of Approval/Green Label Testing Program—will be the standard/testing protocol. OGS uses Green Label-certification as its standard for vacuum cleaners (wet/dry vacuums are not certified).
- Floor burnishing machines equipped with dust collection systems to keep dust from becoming airborne; and

Notes:

- All other items from the Green Cleaning Best Practices section of the New York State Green Cleaning Program website.

Sources of Soil

Soil is defined as any substance, solid or liquid, that is present in a place where it is not wanted. For example, bottled cooking oil is not a soil, but cooking oil residue on walls and floors caused by cooking is considered soil. Using this definition, a facility's main sources of soil are:

- **Tracked-in Soil**—Usually small and oily particles of silica (sand). The most important part of any green cleaning program starts with the purchase, use and proper maintenance of walk-off mats for all building entrances. Placing 12 to 15 feet of walk-off mats at all entryways and following an entryway maintenance program will greatly reduce the amount of tracked-in soil entering the building. An example of an entryway maintenance program can be downloaded from the Customizable Documents and Templates section of the New York State Green Cleaning Program website.
- **Airborne Soil**—These are small particles of dust, droplets of oils, auto exhaust, pollen, and human dander. Air conditioning and heating systems carry airborne soil throughout a facility. Some airborne soils are so small that they can pass through vacuum cleaners and back into the air. Switching to an OGS-approved vacuum cleaner with a HEPA filter is one way to reduce the amount of airborne soil in a building. A list of OGS-approved vacuum cleaners can be found on the OGS-Approved Green Cleaning Products List.
- **Spills**—Spills on carpeting and hard surfaces are usually noticeable and are either a dry powder (photocopier toner, powdered cleaner, sugar, and non-dairy creamer) or liquid (ink, paint, coffee, and moist food). In most cases, custodians can clean these spills easily if they are reported in a timely matter. However, unreported spills are harder or impossible to clean. In addition, soils like urine and feces found around restroom urinals and toilets fall under this category.

Chemical Properties of Soil

By knowing the specific pH of a soil, custodians are better able to match the right cleaning product for the soil. The symbol pH represents the amount of hydrogen ions (H^+) in a solution and is measured on a scale of 0 to 14, with a pH of 7 defined as neutral. Pure water has a pH of 7. A pH less than 7 is called acidic, and a pH greater than 7 is called alkaline. The pH of most soils range between 3 and 9 so they are considered weak ac-

Notes:

ids through weak alkalines. Examples of acidic soils are mixtures of organic matter, oils, and dust. Examples of alkaline soils are mixtures of organic matter with mineral deposits (scale), rust, and urine.

Applying a detergent/cleaner having the opposite pH of the soil (acid cleaner with alkaline soils, and alkaline cleaner with acidic soils) will create a chemical reaction that helps loosen and remove soils from a surface. You can determine the pH of the cleaner by looking at its Material Safety Data Sheet (MSDS).

Considering there are only two types of soil, you may only need two types of cleaners—an acidic cleaner and an alkaline cleaner. This helps reduce the number of different products in your cleaning chemical inventory. However, always check the manufacturer's recommendations for cleaners before applying cleaning solutions. For example, some manufacturers of terrazzo flooring require a detergent that falls within a specific pH level. Failure to follow instructions may void the manufacturer's warranty.

For soils mixed with oils and grease, make sure the cleaning product contains emulsifiers to help release them from the surface. Emulsifiers help oils and grease mix with the cleaning solution, making them easier to remove.

Note:

- ✓ Custodians use the acid/alkaline relationship to clean restrooms by applying acid cleaners to mineral deposits (alkaline soil) in sinks and toilets. If you are unsure of the soil type, use an alkaline cleaner first. If the soil is not removed, try an acidic cleaner. Make sure to rinse and dry the area between cleaning attempts.
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Microorganisms

Microorganisms

A microorganism is a living thing that is too small to be seen by the naked human eye. Microorganism types familiar to most people are bacteria, fungi (such as mold), and viruses. Microorganisms are found everywhere on Earth and are naturally present on and in the human body. While some microorganisms can cause disease in humans, the vast majority of microorganisms are not harmful and some are actually beneficial.

Notes:

A strong relationship exists between the presence of soil and microorganisms because soil provides two key components for microorganisms; a food source and a home. Microorganisms need to be in direct contact with their food source (soil) to grow and multiply. Without moisture and soil to cling to, most microorganisms cannot survive or multiply. Microorganisms feeding on soil give off gasses which may cause unpleasant odors in facilities. By controlling moisture and properly cleaning surfaces, custodians can significantly reduce the number of microorganisms present and the odors they create. Properly cleaned surfaces require the use of an OGS-approved cleaning solution and good cleaning practices to leave behind no residue or odor.

Reducing Bacterial and Viral Infections

Most common infections, like colds, flu or simple skin irritations are spread by direct person-to-person contact, or close contact with microorganisms in droplets created by coughing or sneezing. Occasionally, a person may be infected by touching a contaminated surface and then touching their mouth, nose or open wound.

Microorganisms can live for a long period of time on surfaces and possibly contribute to the spread of infections within buildings. Proper hygiene can help control the spread of many common infections. For example, the New York State Department of Health (NYSDOH) recommends frequent and thorough hand washing to minimize the spread of the flu virus. Hands should be washed with soap and warm water for at least 20 seconds. The OGS-Approved Green Cleaning Products List provides a list of hand soaps for schools to use that meet the OGS Green Cleaning Guidelines and Specifications. Use an alcohol-based hand sanitizer with at least 60% alcohol when soap and water are not available. When using a hand sanitizer in place of soap and water, it is most important to thoroughly wipe your hands on a clean cloth or paper towel. Exercise caution and always supervise young children using alcohol-based sanitizers. Alcohol-based sanitizers should not be substituted for soap and water hand washing, especially when hands are visibly soiled and after toileting. When coughing or sneezing, cover your mouth and nose with a tissue, or cough/sneeze into your upper arm.

For proper hand hygiene, hands should be washed before eating and drinking; after using the bathroom, touching high-hand-contact surfaces, returning to your office or home, blowing your nose, assisting an ill person, and handling chemicals; and between cleaning tasks. For custodians, hands can become contaminated from small holes in the gloves. Therefore, it is essential to wash hands or use hand sanitizer after removing protective gloves.

Notes:

The following publications on the NYSDOH Website (www.health.state.ny.us) contain additional information on reducing the spread of flu:

Keep Your Germs to Yourself, 2007;
Influenza (Flu), 2006; and
MRSA Health Alerts and Advisories.

The MRSA Health Alerts and Advisories provide the following advice for preventing the spread of infection:

- Practice good hand hygiene and skin care;
- Keep cuts and wounds clean and covered with a bandage until healed;
- Avoid contact with other individuals' cuts, wounds and used bandages;
and
- Do not share personal items like towels or razors.

Refer to the NYSDOH Health Advisory for more background on MRSA symptoms, transmission and treatment, and additional ways to prevent the spread of MRSA.

Disinfectants/Sanitizers

OGS lists several different cleaning products within the OGS-Approved Green Cleaning Products List (e.g., general purpose, bathroom, glass/window, toilet bowl cleaners, carpet cleaners & carpet spot removers, hand soaps), but does not list disinfectants or sanitizers. OGS excluded disinfectants and sanitizers because they are not cleaners. Under the OGS Green Cleaning Guidelines and Specifications, OGS permits **only bathroom cleaners** to claim disinfectant properties. Products making an antimicrobial claim must be registered with the United States Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide and Rodenticide Act, and the New York State Department of Environmental Conservation (NYSDEC). Although Green Seal and OGS approves the use of several disinfectant and sanitizer bathroom cleaners, such approval does not imply safety or reduce the need to follow proper safety precautions provided on the product labels. Furthermore, the EPA does not allow the use of symbols implying environmental preferability, safety or non-toxicity (such as the Green Seal symbol) on the label, packaging or advertising of these products. For more information, visit the Green Seal website at: www.green Seal.org

Notes:

The health benefit of using sanitizers and disinfectants as part of routine cleaning is controversial. Cleaning with soap or detergent and water removes a large number of microorganisms contained in soils from surfaces (Sehulster et al., 2004). Furthermore, cleaning is a necessary first step to sanitizing or disinfecting because contact and reaction with soils may reduce or even eliminate the effectiveness of disinfectants. Therefore, even if a surface is washed and disinfected properly, the disinfected condition is good only until the surface's next use. Then, the process must be repeated.

Custodians should always follow product directions when using disinfectants. Failure to follow these directions may result in no benefit at all and introduces chemicals into the environment, and wastes product and labor. To be effective, most disinfectant labels require the surface first be cleaned and then kept wet for several minutes of contact time with a fresh solution of the disinfectant product. Floors wet with disinfectant create slip hazards—always use “wet floor” signs. Once disinfected, floors and surfaces rapidly become re-contaminated by airborne microorganisms, or from those found on shoes or other objects and substances. Studies in health-care settings have demonstrated that disinfecting floors provides no added benefit over cleaning with detergent and water (Sehulster et al., 2004). Routine disinfection or sanitization of all floors and surfaces in schools is not considered necessary. However, the use of disinfectants and sanitizers in certain areas (e.g. food service areas) and circumstances (e.g. disease outbreaks) may be required or recommended by health and other laws, regulations or guidelines. For more information, see Section II, in the OGS Green Cleaning Guidelines and Specifications. All personnel must be trained in the proper use of these sanitizers and disinfectants, and label directions must be followed at all times.

Reference

Sehulster LM, Chinn RYW, Arduino MJ, Carpenter J, Donlan R, Ashford D, Besser R, Fields B, McNeil MM, Whitney C, Wong S, Juranek D, Cleveland J., *Guidelines for Environmental Infection Control in Health-Care Facilities and Recommendations from CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC)*. Chicago, IL: American Society for Healthcare Engineering/American Hospital Association, 2004.

Full Publication with Appendix available at: www.cdc.gov

While disinfectants sometimes have a role in custodial tasks, there may be little benefit gained in situations where disinfectants are commonly used. Before applying disinfectants or sanitizers on surfaces, consider the following:

Notes:

- While some studies may report that sanitizers and disinfectants can achieve 99.99% or 99.999% reduction in microorganism levels on surfaces, disinfectant and sanitizers used in real world situations do not have the same results. Their effectiveness depends on how well the process is performed and how much soil is present on the surface.
- Using a disinfectant to remove soil from anything but a hard, lightly soiled, and non-porous surface will result in a residual level of soil that may still harbor microorganisms.
- The presence of organic soil on surfaces can cancel the effectiveness of disinfectants and sanitizers.
- Disinfectants and sanitizers are designed to kill or otherwise adversely affect living organisms. Therefore, disinfectants can also be harmful to people. When using disinfectants, custodians should always follow the proper safety precautions on the product labels.
- Using detergent or soap and water will effectively reduce the level of microorganisms by removing them with the soil. In most cases, simply washing the surfaces is adequate—disinfection may not be required.
- In certain areas (e.g. food service areas) and circumstances (e.g. disease outbreaks, blood spills) the use of disinfectants and sanitizers may be required or recommended by health and other laws, regulations or guidelines.
- Building occupants may be exposed to disinfectants and sanitizers by breathing in or accidentally ingesting them from recently treated surfaces. Ingesting disinfectants occurs when a person touches a surface with disinfectant on it and then handles food or touches their mouth.
- Disinfected surfaces can rapidly become re-contaminated with microorganisms once touched by hands, shoes or other objects and substances. Airborne microorganisms can also contribute to the recontamination of surfaces.
- Utilizing the proper cleaning method is an important strategy in minimizing soil and microorganism levels on surfaces. Dirty cleaning solutions and equipment such as mops and rags can spread dirt and microorganisms to new surfaces, thereby reducing their effectiveness.
- Rather than relying on disinfectants, focus on cleaning surfaces that are used or touched repeatedly on a daily basis. Items that are touched often include sink faucets, door handles, light switch plates, and dispensers.

Levels of Clean

Notes:

The word “clean” can mean different things to different people. One person may define clean as being spotless while another person may define clean as being tidy. However, spotless is to tidy as an operating room is to an examination room. In a school setting, there are several groups (stakeholders) with different ideas on what is and is not clean. Custodial staff cannot satisfy everyone’s idea of cleanliness, which can lead to disappointment. To have a successful green cleaning program, every stakeholder, including custodial staff, should agree upon and expect the same “levels of clean”. If the custodial staff maintains the agreed upon levels, no one should be disappointed. There are several benefits in defining and agreeing to a building’s level of clean:

- Custodians can use the levels as a guide to ensure they meet and maintain the expected levels of clean;
- Custodial supervisors can use the facility’s defined levels of clean to inspect work and alter schedules to achieve the levels agreed upon; and
- Custodial supervisors can estimate staffing requirements to achieve a certain level of clean. If there is not enough staff to maintain that level, then actions should be taken such as hiring additional staff, lowering the level of clean or obtaining cooperation from building occupants to keep the school clean.

Note:

- ✓ An evaluation/inspection form that uses the “levels of clean” is provided in the Customizable Documents and Templates section of the New York State Green Cleaning Program website.
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In order to agree on the levels of clean, stakeholders need to first define the levels of clean. In the APPA publication *Custodial Staffing Guidelines for Educational Facilities* (CSGEF), Second Edition, five custodial service levels are defined and used to determine staffing requirements needed to clean at each of the five service levels. CSGEF relates each service level to the number of square feet a full-time custodian can clean in a single shift. Facilities should consider using the same custodial service levels to define their building’s levels of clean because they are commonly used in the cleaning industry, and have useful staffing data available. The five custodial service levels, also referred to as levels of clean in this training course, are:

Level 1 – Orderly Spotlessness

Level 2 – Ordinary Tidiness

Level 3 – Casual Inattention

Level 4 – Moderate Dinginess

Notes:

Level 5 – Unkempt Neglect

For most facilities, custodians should strive to maintain levels of clean between two and three. However, the level of clean should coincide with the type of room. For example, a nurse's office should have a higher level of clean (Level Two) than a classroom (Level Three).

Custodians should be familiar with the four key items used in defining these levels, and know the level of clean for each one. The four key items are:

- Floors, corners and base molding;
- Vertical and horizontal surfaces—counters and ledges;
- Washroom and shower fixtures, tile, light fixtures; and
- Trash containers and pencil sharpeners.

By knowing the level of clean requirements, custodians are better able to focus on meeting the requirements by adjusting their work activities. For example, custodians can incorporate wiping down and inspecting base molding after floor care and maintenance tasks that cause solutions splattering.

Below are detailed descriptions of each of these levels in each of CSGEF's five service levels or levels of clean.

Level 1 – Orderly Spotlessness

- Floors and base moldings shine, and are bright and clean, and colors are fresh. There is no soil buildup in corners or along walls.
- All vertical and horizontal surfaces have a freshly cleaned or polished appearance with no accumulation of dust, dirt, marks, streaks, smudges, or fingerprints. Lights all work and fixtures are clean.
- Washroom and shower fixtures and tile gleam, and are odor free. Supplies are adequate.
- Trash containers and pencil sharpeners hold only daily waste, are clean and odor free.

Level 2 – Ordinary Tidiness

- Floors and base moldings shine and are bright and clean. There is no buildup of soil in corners or along walls, but there can be up to two days worth of dust, dirt, stains or streaks.
- All vertical and horizontal surfaces are clean, but marks, dust, smudges, and fingerprints are noticeable upon close observation. Lights all work and fixtures are clean.

Notes:

- Washroom and shower fixtures and tile gleam, and are odor free. Supplies are adequate.
- Trash containers and pencil sharpeners hold only daily waste, are clean and odor free.

Level 3 – Casual Inattention

- Floors are swept or vacuumed clean, but upon close observation, there can be stains. A buildup of dirt and floor finish in corners and along walls can be seen.
- There are dull spots or matted carpet in the walking lanes. There are streaks or splashes on base molding.
- All vertical and horizontal surfaces have obvious dust, dirt, marks, smudges, and fingerprints. Lamps all work and fixtures are clean.
- Trash containers and pencil sharpeners hold only daily waste, are clean and odor free.

Level 4 – Moderate Dinginess

- Floors are swept or vacuumed clean, but are dull, dingy, and stained. A noticeable buildup of dirt or floor finish in corners and along walls can be seen.
- There is a dull path or obvious matted carpet in the walking lanes. Base molding is dull and dingy with streaks or splashes.
- All vertical and horizontal surfaces have conspicuous dust, dirt, smudges, fingerprints, and marks. Lamp fixtures are dirty and some bulb lamps (up to five percent) are burned out.
- Trash containers and pencil sharpeners have old trash and shavings. They are stained and marked. Trash containers smell sour.

Level 5 – Unkempt Neglect

- Floor and carpets are dull, dirt, dingy, scuffed and/or matted. There is a conspicuous buildup of old dirt and/or floor finish in corners and along walls. Base moldings are dirty, stained, and streaked. Gum, stains, dirt, dust balls, and trash are broadcast.
- All vertical and horizontal surfaces have major accumulations of dust, dirt, smudges, and fingerprints, all of which will be difficult to remove. Lack of attention is obvious.
- Light fixtures are dirty with dust balls and flies. Many lamps (more than 5 percent) are burned out.

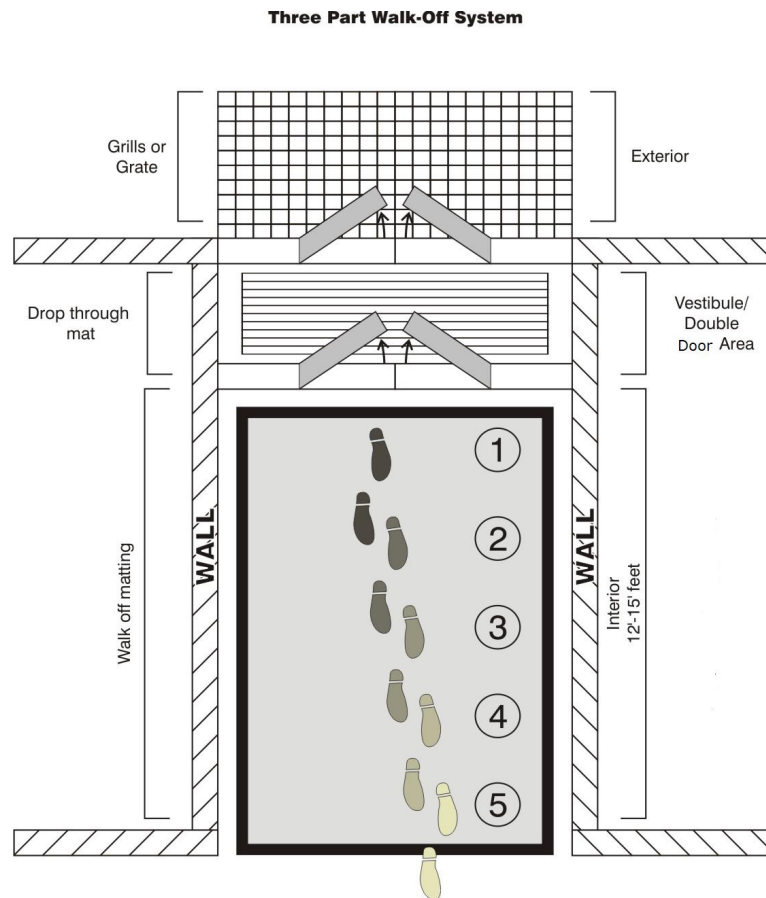
Notes:

- Trash containers and pencil sharpeners overflow. They are stained and marked. Trash containers smell sour.

Entryways

Poorly equipped and maintained entryways allow soil to easily enter a building and spread around. By placing and properly maintaining adequately sized walk-off mats at each entryway, custodians can reduce and control the amount of soil entering a building by more than 80 percent. The Carpet and Rug Institute recommends all main entryways have at least 12 to 15 feet of walk-off matting—the length of approximately five foot steps. The New York Collaborative for High Performance Schools (NY-CHPS), *High Performance Schools Guidelines, Version 1.0* suggests a three-part, walk-off matting system for main entryways as well as for entryways accessible from playing fields and locker rooms. This includes an exterior grill or grates, drop-through mats between the sets of double doors or vestibule area, and 15 feet of interior walk-off matting. The interior walk-off matting should be wide enough to prevent people from walking off the mat prior to reaching the end.

Notes:



Entryway walk-off matting maintenance plays an important part in a green cleaning program by keeping soil out of the building. In order to guarantee an effective walk-off system, create and implement an entryway maintenance program. An entryway maintenance program should document:

- The frequency of rotating or vacuuming walk-off mats (frequency will change based on weather conditions);
- Policing of entryways to ensure matting is not overloaded with soil or moisture during periods of heavy traffic;
- The maintenance and cleaning frequency of exterior walkways and parking lots leading to entryways; and
- The removal of problem vegetation and its replacement with vegetation that does not produce berries, flowers or leaves.

Notes:

Note:

- ✓ OGS provides a downloadable Entryway Maintenance Program in the Customizable Documents and Templates section of the New York State Green Cleaning Program website.
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Custodial efforts in implementing and maintaining walk-off mats have many benefits:

- Improves indoor air quality;
- Reduces pollutants from entering the building;
- Reduces the cost of floor maintenance;
- Extends the life of hard flooring ;
- Increases safety by preventing accidents on hard surface entryways; and
- Reduces cleaning efforts required inside the building.

Basic Worker Safety

- Be aware of chemicals you use and that are in your work place;
- Make sure all containers are properly labeled and tightly secured;
- Never mix chemicals;
- Know how to read and understand Material Safety Data Sheets (MSDS);
- Read the MSDS of every product you use;
- Read and understand your facility's written Hazard Communication Plan;
- Always wear the appropriate personnel protective equipment (PPE) for handling chemicals;
- Use an automated chemical dispenser/dilution system whenever possible to create accurate dilutions and reduce chemical contact;
- Never operate equipment you have not been trained to use;
- Follow the manufacturer's recommendations for the operation and use of chemicals and equipment; and
- Maintain equipment in good working order.

Notes:

Cold or Hot Water for Cleaning

Facilities should consider using cold water-formulated cleaning detergents whenever possible. Cold water-formulated cleaning detergents are designed to work effectively in both cold or hot water. Also, all Green Seal-certified general-purpose cleaners are cold water-formulated. There are several benefits to using cold water instead of hot water:

- Hot water melts and spreads oils, fats, and petroleum products that do not dissolve in water and result in left behind residue that speeds up the collection of new soil;
- Hot water requires the use of a heat source, which wastes energy resources;
- Hot water can cause burns;
- Cold water-formulated cleaners are as effective as hot water cleaners; and
- Hot water cools quickly after contact with surfaces causing the melted soil to reattach to the cold surface.

General Cleaning Rules to Follow

- Clean from top to bottom. Wash vertical surfaces (walls) from the bottom up.
- Perform dry-dusting or mopping before wet procedures.
- Clean the floor at the furthest corner of the room and work towards the exit.
- Clean first then disinfect or sanitize only if necessary.
- Always wear the appropriate protective equipment for the task.
- Always follow the manufacturer's recommendations for product use.

Basic Cleaning Methods/Practices

Below are lists of routine cleaning methods and practices used by custodians to maintain the appearance of a building. The actual step-by-step cleaning procedures are described in OGS's continuing series of cleaning and maintenance training courses (Restroom Cleaning, Floor Care and Maintenance, and Carpet Care and Maintenance training courses):

Dusting

- Dry-dust surfaces before cleaning with liquids.

Notes:

- Use microfiber dusters or cloths to remove dust buildup. Microfiber products create an electrostatic force that attracts and holds dust particles better than other cloths.
- Dust from higher levels to lower levels to prevent airborne dust from falling on already cleaned surfaces.

Wiping

- Use the “Spray and Wipe” method (spray cleaning solution on the soiled surface and then wipe clean.) for cleaning visible soils found on mirrors, toilets, and urinals.
- Use the “Damp Wipe” method (dampen the cloth with cleaning solution and then wipe it clean) for surfaces requiring more controlled application of cleaner such as paper towel dispensers and stainless steel appliances.

Dust-Mopping

- Although microfiber dust-mopping is an acceptable method to remove dry and loose soils, vacuuming the area with a Green Label-certified vacuum cleaner or a Seal of Approval/Green Label-certified vacuum cleaner would reduce airborne particulates better. Remove the vacuum cleaner bag or dump the vacuum canister outside the building to reduce the release of dust back inside.

Note: The Carpet and Rug Institute’s (CRI) Green Label Testing Program introduced in 2000 will officially be phased out in 2010 at which time a new joint program—the CRI Seal of Approval/Green Label Testing Program—will be the standard/testing protocol.

- Dust-mop using a microfiber dust mop or Green Label-certified vacuum trap soil and reduce airborne particles.
- Dust-mopping removes surface dirt in preparation for wet/damp-mopping or auto-scrubbing.
- Always use the appropriate-sized microfiber mop head for the space being cleaned.
- Replace the microfiber dust mop with a clean microfiber pad when it becomes too dirty and can no longer pick up soil.
- Clean dust mop heads outside and away from open windows and doors. Cleaning dust mops inside will release dust back into the air.

Notes:

Wet/Damp-Mopping

- Always dust-mop an area prior to wet/damp-mopping to gather and remove loose soil and debris.
- Microfiber mops clean effectively, last longer, and reduce the amount of cleaning solution needed to perform the task.
- While wet/damp mopping work away from the furthest location of the room towards the exit.
- Clean along baseboards first to reduce splatter, then mop the rest of the floor.
- Never place dirty microfiber mop heads back into the cleaning solution; replace them with a clean wet/damp mop head.
- For traditional mopping using loop-type mop heads, replace the cleaning solution with clean solution when the mop head becomes dirty.

Auto-Scrubbing

- Use an auto-scrubber to clean large floor areas quickly and effectively.
- Select the right brushes or pads for the cleaning job.
- Wet/damp-mop tight areas that the auto scrubber cannot reach, and then use a handheld squeegee to pull the water into the path of the auto scrubber.
- Make sure the equipment is in good working order and leaves no streaks.

Vacuumping

- Vacuuming is the most important and cost-efficient part of carpet maintenance.
- Vacuums should be properly maintained.
- HEPA filters and vacuum bags should be replaced according to the manufacturer's recommendations. To maintain suction performance, custodians should replace vacuum bags when they become half-full.
- High traffic areas require thorough vacuuming to raise the carpet nap and remove dirt. Give the suction action of the vacuum enough time to remove the dirt.
- If possible, replace outdated vacuums with Green Label-certified vacuum cleaners.
Note: The Carpet and Rug Institute's (CRI) Green Label Testing Program introduced in 2000 will officially be phased out in 2010 at which time a new joint program—the CRI Seal of Approval/Green Label Testing Program—will be the standard/testing protocol.
- Use upright or backpack vacuums for effective carpet cleaning.

Notes:

- Make sure backpack vacuums are properly adjusted before use to protect against injury.

Frequency of Cleaning and Maintenance

Note:

- ✓ The frequency of cleaning tasks is location specific. Therefore, the frequencies provided in this document should be used as a general guideline. For example, based on the level of clean, stripping and finishing may not be required for extended periods of time.
-

Frequencies of cleaning tasks are school specific and vary depending on the quality of routine maintenance and the amount of activity in the building. Cleaning and maintenance frequencies can be broken down into three categories: routine, interim and restorative. Routine maintenance is critical to maintaining the building's appearance and lengthens the time between more costly and labor-intensive maintenance tasks like stripping and refinishing floors. Interim maintenance keeps high traffic floors and carpeting at an acceptable appearance level. It is more labor-intensive than routine maintenance. Restorative maintenance is the most labor intensive and involves tasks like deep cleaning carpets and stripping and refinishing hard floors. Listed below are typical care and maintenance tasks broken down by routine, interim and restorative maintenance.

Routine Maintenance

- Tasks done often throughout a week:
 - Dust and wet-mopping or auto-scrubbing floors at least once a day;
 - Vacuuming of entryways and high traffic areas at least once a day;
 - Vacuuming of medium and low traffic areas every 2-3 days;
 - Trash removal at least once a day; and
 - Restroom cleaning at least once a day.
- Detail tasks done about once a month or when needed:
 - Wiping heating and air conditioning vents;
 - Spot cleaning walls ;
 - Spot cleaning carpets;
 - Cleaning windows;

Notes:

- Dusting horizontal surfaces and light fixtures; and
- Cleaning furniture.

Interim Maintenance

- Tasks done as needed based on appearance and condition:
 - Floor burnishing and refinishing processes; and
 - Bonnet carpet cleaning or carpet extraction in high traffic areas.

Restorative

- Labor-intensive tasks that occur every six months or more:
 - Deep clean carpet cleaning to be done before soils are visible in carpet.

Note:

- ✓ Since restorative tasks occur less frequently, it is especially important to review procedures for these tasks prior to starting.
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Review of Section 2

Section 2 provided several topics on basic green cleaning. This training course presented the following:

- Descriptions of three sources of soil found in buildings;
- Description of soil acid/alkaline property and how it can be used to select cleaners;
- Descriptions of microorganisms and their relationship to soil;
- A discussion on ways to reduce microorganisms and resultant illnesses, including the importance of hand washing;
- A discussion of disinfectants, their use and potential issues;
- Descriptions and examples of green cleaning products and equipment, and the New York State laws that mandate the purchase and use of green cleaning products;
- The benefits of establishing levels of clean for buildings and the importance of stakeholders agreeing to them;

Notes:

- The importance of entryway matting systems in reducing the amount of soil entering the building, and the proper maintenance of mats and exterior areas leading to entryways;
- Cleaning products listed on the OGS-Approved Green Cleaning Products List that work effectively with cold water—the use of hot water for cleaning should be discouraged;
- A list of safety practices that custodians should follow.
- A list of basic green cleaning methods and practices used by custodians; and
- Common frequencies of cleaning and maintenance tasks organized by routine, interim, and restorative maintenance tasks.

Notes:

Post-Test/Course Evaluation

This section will address:

- ☆ Post-test
- ☆ Course evaluation

Please complete the post-test and course evaluation. All course participants will receive a Certificate of Course Completion. Participants with a post-test grade of 75 percent or better will receive a Certificate of Achievement. Findings from the post-test and course evaluation provide vital feedback for OGS to revise and improve the course content. **Please do not disregard the post-test and course evaluation!**

Notes:

Useful Websites and Resources

Building Green.com

www.buildinggreen.com

Carpet and Rug Institute

www.carpet-rug.org/

Center for a New American Dream

<http://www.newdream.org/clean/>

Grassroots Environmental Education

www.grassrootsinfo.org

Green Seal

www.greenseal.org

Healthy Schools Network

www.healthyschools.org

Hospitals for a Healthy Environment - Green Purchasing

www.h2e-online.org

INFORM - A Free Resource to Assist Agencies in Implementing Strategies for a Better Environment

www.informinc.org

NYS Department of Health

www.health.state.ny.us

The New York State Green Cleaning Program

greencleaning.ny.gov

The United States Environmental Protection Agency

www.epa.gov

Notes: