

MECKLENBURG COUNTY

PURCHASING GUIDE for

ENVIRONMENTALLY PREFERABLE PRODUCTS



Provided by Business Support Services
Procurement Services Division and the Mecklenburg County Green
Purchasing Team

May 28, 2010

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Section 1 – Environmental Preferable Purchasing Guide

Introduction

The Business Support Services, Procurement Services Division (PSD) is responsible for ensuring that all City of Charlotte and Mecklenburg County purchases are made in compliance with current federal, state, and local laws and City/County policies. PSD is charged with the oversight, administration, and monitoring of the Procurement Policy and Procedures Manual which is posted at: <http://cnet/psd/default.aspx>.

The Mecklenburg County Green Purchasing Team is a volunteer group of County employees representing County Departments and their varying purchasing interests. This team has provided input and oversight for development of this guide.

Disclaimer: Users of this guide are responsible for complying with all applicable law (including without limitation North Carolina General Statutes 143-129 and 143-131), the *Mecklenburg County Procurement Process and Procedures Manual* (amended July, 2010), the *Recycled Product and Waste Reduction Policy* adopted by the Board of County Commissioners on August 13, 1996, the *Environmental Leadership Policy* adopted on January 23, 2004 by the Board of County Commissioners, the *Fleet Management Plan*, the *Sustainable Development Policy* and other Board or County Manager directives. Any specifications presented in this guide are not intended to constitute or render engineering, architectural, legal or other professional services or advice. Nor should they be a substitute for such services or advice from an experienced professional directed to a specific design situation. While information in any specifications is believed to be accurate, the Procurement Services Division, and its consultants on this project shall not be liable for damages arising from errors or omissions in specifications.

Purpose

This guide introduces and defines “environmentally preferable purchasing” and is intended to support the principle of “including environmental considerations in purchasing decision for goods and services” stated within the Mecklenburg County Environmental Leadership Policy. This guide provides departments with valuable information and resources to incorporate environmental considerations when making purchasing decisions.

Included in this guide are the basics of environmentally preferable purchasing, suggested purchasing resources and purchasing recommendations for many product groups to help you make environmentally preferable buying decisions.

How will this purchasing reference guide help me?

It is not always easy finding or deciding which product is better for our employees and environment. Every item we buy has an impact on our health and environment, no matter whether we are buying cleaning products, furniture, lights, motor oil, office supplies, paint, cars, and the list goes on.

We hope you find this reference guide a helpful resource when looking for products with environmental attributes or deciding between products. Most of all, it should encourage buyers to ask the right questions.

What is environmentally preferable purchasing?

Environmentally preferable goods and services are those that have a lesser or reduced effect on human health and the environment when specifically compared with other goods and services that serve the same purpose.

Questions to ask before purchasing a product include:

- Is the product less hazardous?
- Is it reusable or more durable?
- Is it made from recycled materials?
- What happens to the product at the end of its life? Can it be recycled? Will the manufacturer take the product back? Will it need special disposal?
- Does it conserve energy or water?
- Is it made from plant-based raw materials?

Depending upon which product you are buying, all or only a few of these questions will apply. One challenge in buying wisely is knowing which questions to ask. With this Guide helping to put environmental issues in context, asking these questions will become second nature.

What are environmental attributes?

Environmental attributes are those features of a product that make it preferable to purchase over other products. Some of the environmental attributes to consider are as follows:

| | |
|---|--|
| Recycled Content | Buying products made with recycled materials save energy and resources, and keeps waste out of landfills. Recycled content products can be made with pre-consumer content, post-consumer content, or a mixture of both. Pre-consumer content utilizes materials from manufacturer's scrap. Post-consumer content utilizes materials collected from recycling programs. |
| Less Hazardous | Avoiding products containing hazardous chemicals reduces potential serious health risks to people and damage to the environment. As a general rule, always try to use the least amount of a hazardous product. Avoid products with the following precautionary words such Caution, Danger, Warning or Poison. Many alternative products are available that are less hazardous. |
| Conserves Energy | Reducing energy use is one of the simplest things we can do to curb impacts to the air we breathe and our environment. The production of energy can contribute many harmful byproducts to our environment so by buying energy-efficient products, you will keep utility costs down and protect the environment. The federal Energy Star label helps buyers identify energy-efficient products. |
| Prevents Waste | Preventing waste can conserve natural resources. Our state generates millions of tons of municipal solid waste annually. You can prevent waste when you reduce the amount of material you buy to accomplish any task, buy repairable items, and find multiple uses for items. |
| Air Quality Low Volatile Organic Compounds (VOC) | Selecting products with low or no VOCs reduces indoor air quality hazards for employees. VOCs are chemicals that evaporate easily (volatilize) at room temperature and often have unhealthy and unpleasant vapors. They come from many products such as adhesives, carpeting, upholstery, paints, solvents, pesticides and cleaning products. Some VOCs may cause cancer, especially, when they are concentrated indoors. When VOCs hit sunlight it creates ozone, an air pollutant harmful to both people and plants. |
| Conserves Water | Choosing products and services that conserve water can save money on water and sewer bills. Less than one percent of the Earth's water is available for human consumption. Dry spells and pollution remind us that our water supply can be threatened. |
| End of Life Management | Considering the product's end of life issues when you buy can prevent costly disposal bills. Sometimes saving money up-front on a purchase results in spending more in the long term for proper disposal or injuries related to use of a product or disposal. It also encourages manufacturers to reduce their product's environmental burden. |
| Reduced Packaging | Packaging is a large component of municipal solid waste landfills. A product's packaging can account for a significant portion of the product's contribution to municipal solid waste. EPA's recommended approach to managing solid waste is to first reduce packaging of products, and second, recycle packaging materials. |
| Biodegradable | A "biodegradable" product has the ability to break down, safely and relatively quickly, by biological means, into the raw materials of nature and disappear into the environment. These products can be solids biodegrading into the soil or liquids biodegrading into water. Biodegradable plastic is intended to break up when exposed to microorganisms (a natural ingredient such as cornstarch or vegetable oil is added to achieve this result). |

Why is environmentally preferable purchasing important?

The purchase and use of environmentally preferable products can have a profound impact – and not just on the environment. From worker safety to budget savings, wise purchasing has a number of additional tangible benefits:

- Buying less-hazardous products can reduce regulatory liability, improve worker safety, and lower disposal costs.
- Using energy-efficient and water-conserving products can save money.
- Products that are reusable, refillable, more durable, or repairable create less waste and are more cost-effective in the long run than disposable or single-use products.
- Buying recycled products conserves valuable landfill space by using goods made from materials that otherwise would have been discarded. Using recycled products and packaging also conserves natural resources and energy.
- Environmentally preferable purchasing compliments other Mecklenburg County environmental policies including: practicing waste minimization and requiring environmentally sensitive design (USGBC LEED certification) for all new and retrofitted facilities.

Purchase Price Considerations

One of the most effective ways to purchase environmentally preferable items is to incorporate life cycle costing into your bidding practices. Unfortunately, government contracts are often awarded solely for the lowest purchase price. Since the initial purchase price may not reflect the recurring price of energy, operations and maintenance, government agencies can end up with a piece of equipment that costs much more in the long run than a product with a higher purchase price but lower life cycle costs. Agencies can avoid this predicament by using life cycle costing.

Even where energy-efficient products have a higher purchase price than their less efficient counterparts, these products usually save money because they use less energy, often have a longer life, and typically incur less maintenance cost.

There are specific examples of measurable reduced costs associated with environmentally preferable products. These include a lower purchase price (e.g. remanufactured products), reduced operational costs (e.g. energy efficiency), reduced disposal costs (e.g. more durable products) and reduced hazardous management costs (e.g. less toxic products). In addition, purchasing environmentally preferable products may reduce an organization's potential future liability, improve the work environment and minimize risks to workers.

Department Heads are advised that the purchase of some Environmentally Responsible products may exceed the costs of comparable products. This factor alone should not determine whether an Environmentally Responsible product should be purchased, although it should be a factor in the decision. All purchases shall be handled in a fiscally responsible manner.

Nothing contained in this policy shall be construed as requiring a department, buyer or contractor to procure products that do not perform adequately for their intended use, exclude adequate competition, or are not available at a reasonable price in a reasonable period of time.

Practice the Four R's – Reduce, Reuse, Recycle, and Rebuy

Reduce: is the best of the four R's—because preventing waste in the first place means you have less waste to worry about in the end!

- Shop for products that have the least amount of packaging
- Buy in bulk quantities whenever possible. Use data from previous years to estimate future needs so you can buy in bulk.
- Rent or borrow items that are used infrequently.
- Maintain and repair items to ensure a long product life.

Reuse is the next best—if you can reuse your waste, it is longer considered waste! Giving away old clothes and other unwanted items to charities and thrift stores keeps good items out of the trash and can save you money. Why pay extra to dump good usable items when you can donate them for free?

Recycle: Sometimes things can't be reused. Recycling keeps raw material in the system and keeps us less dependent on virgin ore, oil and trees for raw materials. If we can keep recycling our products, not only will we reduce the amount of material going to the landfill, we will also reduce the necessity of mining and chopping down trees! All Mecklenburg County employees are required to participate in the Re-Think program for paper and cardboard recycling. Additionally, beverage container recycling is encouraged as an addition to the Re-Think program. Get a blue bin and start recycling!

Rebuy: Close the loop! What good is recycling if nobody buys the recycled products? Buying recycled products creates a larger demand for them. More demand means more manufacturers will try selling more recycled products. You also might want to consider only buying products that can be recycled.

7 Things to Consider Before Buying

- Do you really need it?
- Can you get it used?
- How was it made?
- How is it packaged and shipped?
- How much energy or resources will it require to maintain?
- Is it reusable, repairable, or at least recyclable?
- Does it help me go green in other ways?

Third Party Certification and Acceptable Standards & Guidelines

There are a number of organizations that are putting considerable time and effort into evaluating products and services based on environmental impacts. Below are a few of the most widely recognized organizations that have established environmentally preferable product standards.

| | |
|---|---|
|  | <p>Green Seal is a nationally recognized nonprofit organization that certifies a variety of environmental products that pass stringent testing standards. Approved products carry a Green Seal logo that is well recognized throughout industry and government as a leading environmental standard.</p> <p>Green Seal bases its work on thorough, state-of-the-art scientific evaluations using internationally accepted methodologies. Product evaluations are conducted using a life-cycle approach to ensure that all significant environmental impacts of a product are considered, from raw materials extraction through manufacturing to use and disposal.</p> <p>www.greenseal.org</p> |
|  | <p>Sponsored by the U.S. Department of Energy and the U.S. Environmental Protection Agency, ENERGY STAR labels products such as computer CPUs, monitors, printers, copiers, and other devices that exceed US energy efficiency standards. ENERGY STAR also includes lighting, appliances, windows and many other products.</p> <p>www.energystar.gov</p> |
|  | <p>United States Environmental Protection Agency (EPA) works to develop and enforce regulations that implement environmental laws enacted by Congress. EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to states and tribes the responsibility for issuing permits and for monitoring and enforcing compliance. Where national standards are not met, EPA can issue sanctions and take other steps to assist the states and tribes in reaching the desired levels of environmental quality.</p> <p>The EPA provides Comprehensive Procurement Guidelines (CPG) that is updated every two years. Through the CPG, EPA designates items that must contain recycled materials when purchased with appropriated federal funds by federal, state, and local agencies. www.epa.gov/cpg</p> |
|  | <p>American Society for Testing and Materials (ASTM) is one of the largest voluntary standards development organizations in the world and a trusted source for technical standards for materials, products, systems, and services. Known for their high technical quality and market relevancy, ASTM International standards have an important role in the information infrastructure that guides design, manufacturing and trade in the global economy. Standards for over 12, 000 items can be downloaded at: www.astm.org</p> |
|  | <p>Greenguard Environmental Institute (GEI) is an industry-independent, non-profit organization that oversees the GREENGUARD Certification Program. As an ANSI Authorized Standards Developer, GEI establishes acceptable indoor air standards for indoor products, environments, and buildings.</p> <p>http://www.greenguard.org/</p> |

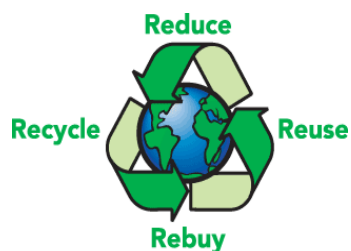
Green Washing

A term merging the concepts of “green” (environmentally sound) and “whitewashing” (to conceal or gloss over wrongdoing). Greenwashing is any form of marketing or public relations that links a corporate, political, religious or nonprofit organization to a positive association with environmental issues for an unsustainable product, service, or practice.

In some cases, an organization may truly offer a “green” product, service or practice. However, through marketing and public relations, one is wrongly led to believe this “green” value system is ubiquitous throughout the entire organization.

The *Seven Sins of Greenwashing*, from Terra Choice (2010):

- The **Sin of the Hidden Trade-Off** occurs when one environmental issue is emphasized at the expense of potentially more serious concerns. In other words, when marketing hides a trade-off between environmental issues. Paper, for example, is not necessarily environmentally-preferable just because it comes from a sustainably-harvested forest.
- The **Sin of No Proof** happens when environmental assertions are not backed up by evidence or third-party certification. One common example is facial tissue products that claim various percentages of post-consumer recycled content without providing any supporting details.
- The **Sin of Vagueness** occurs when a marketing claim is so lacking in specifics as to be meaningless. “All-natural” is an example of this Sin. Arsenic, uranium, mercury, and formaldehyde are all naturally occurring, and poisonous. “All natural” isn’t necessarily “green.”
- The **Sin of Worshiping False Labels** occurs when marketers create a false suggestion or certification-like image to mislead consumers into thinking that a product has been through a legitimate green certification process. One example of this Sin is a paper towel product whose packaging has a certification-like image that makes the bold claim that the product “fights global warming.”
- The **Sin of Irrelevance** arises when an environmental issue unrelated to the product is emphasized. One example is the claim that a product is “CFC-free”, since CFCs are banned by law.
- The **Sin of Lesser of Two Evils** occurs when an environmental claim makes consumers feel “green” about a product category that is itself lacking in environmental benefits. Organic cigarettes are an example of this Sin.
- The **Sin of Fibbing** is when environmental claims are outright false. One common example is products falsely claiming to be Energy Star certified.



Writing Specifications

When putting together your bid requirements for products and services consider how environmental attributes can be included in your specifications. Taking some time to consider environmental impacts before purchasing can result in lasting benefit for people and the environment. The language below should be incorporated into bid requirements and referenced in contracts:

1. Vendors, contractors, and grantees shall comply with applicable sections of this Environmentally Preferable Purchasing Guide for products and services provided to Mecklenburg County. In particular, vendors, contractors and grantees providing written materials to the County shall do so using both sides of the paper and on recycled paper meeting minimum standards of the US EPA Guidelines and labeled as such. In addition, the use of binders, plastic covers, and other items that impede the recycling process are especially discouraged. Bidders must provide certification of environmental standards and other environmental claims, such as recycled content and emissions data or a formal statement signed by a senior company official, when requested.
2. The vendor, contractor, or grantee shall furnish quarterly usage reports showing a summary of the ordering and/or history of each County department for the previous quarter to the Procurement Services Division. The report must show at minimum, description and total quantity of each item ordered during the period, reporting period, County agency, and total dollars per agency. Mecklenburg County reserves the right to request additional information, if required, when reviewing contract activity.
3. If the buyer making the selection from competitive bids or requesting department seeks to purchase products that do not meet the environmentally preferable purchasing criteria in this Guide, the buyer or department shall provide a written justification to the Environmental Policy Administrator for why compliance is not practicable, e.g. the product is not technically practical, economically feasible, or available within the timeframe required.
4. If a vendor that is under contract with Mecklenburg County is no longer able to provide a product that meets this Environmentally Preferred Purchasing Guide, it shall notify the buyer or department and provide written justification for why compliance is not practical. Prior written consent from the buyer, or authorized County representative, shall be required before substituting any alternative product in addition to other standard contract amendment procedures.

Additionally, the following strategies can be utilized within your bid documents:

- Require all products have a low impact to human health and environment.
- Require recycled content in products and products that can be easily recycled.
- Require packaging or containers that are refillable, returnable, or recyclable.
- Specify those environmental attributes that make sense to a product, such as non-toxic, recycled content, mercury-free, biodegradable, energy efficient, low VOC, Energy Star, or vendor recycling and take-back programs.
- Ask vendors to identify environmental attributes that are common to a product and then think about using them when preparing your specifications.
- Avoid specifications that would limit the purchase of certain products, e.g. requiring new equipment or virgin materials when refurbished or recycled products would work.
- Watch for over-specification; only specify product qualities that are critical to performance and leave other features open to alternatives, by specifying color of plastic items you may eliminate recycled-content items.
- Take into account the life-cycle costs, not just the purchase price of a product; consider long-term savings on maintenance, replacement and disposal costs.
- Give an evaluation preference to products that offer the environmental attribute that you are looking for, e.g. additional points based an environmental attribute.

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- Award contracts using a good, better and best ranking for products and let the customer choose, this method allows for pricing differences for environmentally preferable products.
- Buy in bulk when feasible. Facilities can often realize significant cost-savings by buying certain items in bulk. Use data from previous years to estimate
- Packaging should be recycled or recyclable materials and kept to a minimum to avoid waste.
- Keep track of what works well and any difficulties you encountered in purchasing these products for future purchases.
- Set environmental purchasing goals and track them for your office, department and agency.
- Limit the use of Styrofoam in packaging and food utensils.

Program Evaluation

The Environmental Policy Administrator shall evaluate the success of this Policy's implementation by providing an annual report to the Environmental Leadership Team, County Manager, and Board of County Commissioners as part of the overall Environmental Leadership Policy. The report shall relate progress in meeting the goals and objectives of this Policy and note any barriers encountered, recommendations for resolution, and/or description of assistance needed to continuously improve staff's ability to meet this Policy's objectives for the procurement of environmentally preferable products and services.

The Environmental Preferable Purchasing Guide should be reviewed by all Department Purchasing Personnel as a part of their yearly plan to achieve the goals put forth by the Departmental Environmental Leadership Action Plan.

This policy shall be updated every even year on or before April 22nd (Earth Day),

Guidelines for Buying Environmentally Preferable Products

2.1 GENERAL BUILDING MAINTENANCE

2.1.1 Carpeting

An Overview

Most commercial carpet is made by bonding a face fiber to a backing fiber, using one of a variety of strong bonding agents. Recycled content and recyclable carpet options each have their own merits and considerations, depending on specific need, location, and use. Nylon, polyester, and plastic are made from petroleum, a non-renewable resource. Since the face fiber backing can contribute up to 60% of the carpet material, purchasing a nylon face fiber with 100% recycled content backing is worth consideration.

Closed loop systems, where used carpet fiber and backing are made into new carpet and backing (and can be recycled into new carpet after its useful life) are important to consider.

Mecklenburg County Environmental Policy Requirements:

All quantities > 2000 sq ft must meet or exceed the silver level of the ANSI/NSF 140-2007e Sustainable Carpet Assessment Standard or better. Refer to the *Environmental Policy Action Plan* for annual goals.

Potential Environmental Impacts

- Indoor air quality concerns from fumes given off by new or recycled synthetic materials may favor natural materials such as wool, cocoa matting, hemp and similar materials.
- Conventional synthetic carpets are made from non-renewable resources.
- Disposal issues at the end of product life span.

Things to Consider Before Buying or If You Write Your Own Specifications

- Look for the highest recycled content.
- Recyclable products with “seals of approval.”
- Products that minimize volatile organic compound (VOC) emissions.
- Carpet that is not SB latex-backed.
- Product that contains natural or vegetable dyes and additives.
- Colors that match natural soiling to hide dirt and stains.
- Minimum 10 year warranty.
- Minimum of 28 ounces per square yard for loop pile carpet and 34 ounces per square yard for cut pile carpet.
- Recycle carpet and/or carpet padding. Go to www.wipeoutwaste.com for additional information.

Availability

Carpet with recycled-content face fibers and/or backing is readily available through many distributors and is available in many different colors and patterns. Green Seal recommends the following carpet brands: *Beaulieu of America, Brintons, Colin Campbell & Sons, Collins & Aikman, Interface, J&J Industries, Mannington Mills, Milliken Carpet, Mohawk, Shaw, and Talisman Mills.*

Milliken brand carpets can be purchased through the U.S. Communities Cooperative Purchasing Program. The Milliken distributor in Charlotte is:

Modular Design
1230 West Morehead St. Suite 104
Charlotte, NC 28208
704.332.0009
Contact: Charles Hollar

2.1.2 Ceiling Tiles

An Overview

Ceiling tiles generally fall under the product category of acoustical products. Ceiling tiles are generally designed to be light, to be acoustically deadening and to be durable and low maintenance. At one time ceiling tiles had high asbestos content but they are continuing to improve with the advent of new recycling technologies. Some products now on the market have a minimum of 80% recycled content (mineral fibers). They are durable and tear resistant, so they can be reused.

Mecklenburg County Environmental Policy Requirements

Ceiling tiles should meet or exceed Collaborative for High Performance Schools Section 01350 or better. Refer to the *Environmental Policy Action Plan* for annual goals

Potential Environmental Impacts

- Health hazards from dust and fumes during and after insulation.
- Hazardous materials may enter the waste stream when disposed of.
- Paints used in ceiling tiles could contain high VOC.

Things to Consider Before Buying or If You Write Your Own Specifications

- Look for tiles made from cellulose fibers, mineral and slag wool by-products and/or recycled fiberglass.
- NO asbestos fibers are acceptable.
- Specify products that meet Collaborative for High Performance Schools Section 01350 or other nationally recognized environmental organization.
- Tiles should contain a high percentage of recycled content. The EPA recommends a minimum recycled content of 80%.
- Look for durable construction and low maintenance tiles.
- Products must meet all building and fire codes.

Availability

The EPA recommends the following ceiling tile manufacturers: *Armstrong, and USG Corporation*. Ceiling tiles with recycled-content materials are available through many distributors. Please check the Vendor Management System (VMS), or Advantage for a complete listing of registered vendors and always require the vendor to quote environmental preferable products when practicable.

2.1.3 Paint Products

An Overview

Paints are among the most widely purchased products in the area of building maintenance. These products range in environmental impact, but all have the potential to adversely affect the environment through improper use, waste, and end disposal.

Mecklenburg County Environmental Policy Requirements:

Paint should have low level of Volatile Organic Compounds (VOC). Refer to the *Environmental Policy Action Plan* for annual goals

Potential Environmental Impacts

- Volatile organic compounds (VOC) and fumes reduce air quality and are less hazardous.
- Unused product disposal, if not performed properly could lead to environmental problems.

Things to Consider Before Buying or If You Write Your Own Specifications

- Reference the Green Seal standard for paints found at [.http://www.greenseal.org/certification/standards/GS-11_Paints_and_Coatings.pdf](http://www.greenseal.org/certification/standards/GS-11_Paints_and_Coatings.pdf)
 - The product shall not contain the following ingredients:
 - 1,2-dichlorobenzene
 - Alkylphenol ethoxylates (APEs)
 - Formaldehyde-donors
 - Heavy metals, including lead, mercury, cadmium, hexavalent chromium and antimony in the elemental form or compounds
 - Phthalates
 - Triphenyl tins (TPT) and tributyl tins (TBT)
- Require low or no fumes and preferably no volatile organic compounds (VOC).The VOC concentration of the product shall not exceed those listed below in grams of VOC per liter of product as determined by ASTM D6886-03 Standard Test Method. The calculation of VOC shall exclude water and colorants added at the point of sale:
 - Product Type VOC level (in g/L)
 - Flat Topcoat - 50
 - Non-Flat Topcoat - 100
 - Primer or Undercoat - 100
 - Floor Paint - 100
 - Anti Corrosive Coating - 250
 - Reflective Wall Coating - 50
 - Reflective Roof Coating – 100
 - Stains - 250
 - Shellacs
 - Clear – 730
 - Pigminted – 550
 - Sealers
 - Waterproofing - 250
 - Sanding - 275
 - All other sealers - 200
 - Clear Wood Finishes
 - Varnish - 350
 - Lacquer – 550
- Longevity of application.
- Consider recycled paint
- Buying the right amount of paint reduces waste.

Availability

While VOC free paint is now available, **low -VOC and less-toxic paint** are available from numerous local and national manufacturers. Recycled latex paint can now meet a wide variety of specifications and can contain additives such as anti-mildew fungicides and color pigments that can be matched between batches. It is also available for metal surfaces and as primer. It can be sprayed, rolled, or brushed on, just as any other paint. Green Seal lists low VOC and recycled paints by the following paint manufacturers: *Benjamin Moore, Dutch Boy, Olympic Paint and Stain, Sico, Inc., PPG, Rodda, and Miller Paint Co.* Please check the Vendor Management System (VMS), or Advantage for a complete listing of registered vendors and always require the vendor to quote environmental preferable products when practicable.

2.1.4 Insulation

An Overview

There are many thermal insulation materials on the market. They may be purchased as two types: plastic foam insulation or fibrous material. The use of thermal insulation is increasing to help curb the use of energy and non-renewable resources. In addition, the use of recycled materials will reduce the amount of materials entering the waste stream and reduce total resource consumption. Partly because aesthetic demands are minimal, insulation can be a good use for waste materials from other industrial processes or recycled solid waste. Some insulation materials are available with very high levels of recycled content. Look for high recycled content in all insulation materials, meeting or exceeding the EPA's Comprehensive Procurement Guidelines' (CPG) standards for recycled and post-consumer content.

Mecklenburg County Environmental Policy Requirements:

EPA's CPG Recommended Recovered Materials Content Levels for Building Insulation

- Rock Wool – 75% recovered slag
- Fiberglass – 20-25% recovered glass cullet
- Cellulose Loose-Fill and Spray-On – 75% post-consumer paper
- Perlite Composite Board – 23% post-consumer paper
- Plastic Rigid Foam, Polyisocyanurate/Polyurethane:
 - Rigid Foam – 9%
 - Foam-in-Place – 5%
 - Glass Fiber Reinforced – 6%
 - Phenolic Rigid Foam – 5%
 - Plastic, Non-Woven Batt – 100%

Potential Environmental Impacts

- Health hazards from dust and fumes during and after insulation reduce air quality.
- Energy and resource consumption in manufacturing the product.
- Incorporation of ozone depleting substances in the manufacture of the product.

Things to Consider Before Buying or If You Write Your Own Specifications

- Low or no fumes and preferably no volatile organic compounds (VOC).
- Require highest recycled content materials.
- Specify products that meet Greenguard Environmental Institute or EPA standards or other nationally recognized environmental organization.

Availability

Please check the Vendor Management System (VMS), or Advantage for a complete listing of registered vendors and always require the vendor to quote products that meet the EPA standards whenever practicable.

2.1.5 Roofing

An Overview

For a properly constructed structure, weather protection begins at the ridge of the roof, continuing down to form an unbroken barrier that keeps out the elements -- rain, snow, and the sun's light and heat.

Currently, there is a multitude of roofing materials available, ranging from asphalt shingles, wood shingles and shakes, to roll-roofing and plastic membranes, to slate and tiles (clay and concrete), and finally to aluminum, copper and steel panels.

Mecklenburg County Environmental Policy Requirements:

EPA recommends that procuring agencies refer to the 167 standards for roofing products maintained by ASTM's Committee D08 on Roofing, Waterproofing, and Bituminous Materials.

Potential Environmental Impacts

- Depending on material specified, air quality may be impacted adversely during time of installation.
- Some materials may contain high VOC that may have a negative impact over longer term.
- Some materials used are non-renewable resources.
- Disposal issues at the end of product life's span.

Things to Consider Before Buying or If You Write Your Own Specifications

- It's important to consider the climate, the buildings requirements and potential health issues of residents and the environment.
- Require the highest recycled content.
- Preference for products with "seals of approval."
- Require low or no fumes and preferably no VOCs.
- Longevity of application.
- Product should meet all building and fire codes.
- Mecklenburg County has a certified Construction and Demolition landfill for proper disposal of construction and demolition materials and recycling of selected materials. Visit www.wipeoutwaste.com.

Availability

Please check the Vendor Management System (VMS), or Advantage for a complete listing of registered vendors and always require the vendor to quote environmental preferable products when practicable.

W.P. Hickman offers Green Roofing materials and can be purchased through the U.S. Communities Cooperative Purchasing Program. For more information please contact:

W.P. Hickman
Walter McGee
Bus: 440.248.7760
Cell: 828.273.4700
wmcgee@wpickman.com

2.2 JANITORIAL PRODUCTS

2.2.1 Industrial and Commercial Cleaners

Overview

The primary function of industrial and commercial cleaners is for facility and machinery cleaning. The selection of a cleaner is influenced primarily by the nature of the surface to be cleaned, the nature of the soiling, and the degree of cleanliness required. The major ingredients in cleaners are surfactants, builders, solvents, scouring abrasives, and alkalis.

Mecklenburg County Environmental Policy Requirements:

Products should meet Green Seal Standards. (http://www.greenseal.org/certification/cleaning_products.cfm)

Refer to the *Environmental Policy Action Plan* for annual goals

Potential Environmental Impacts

- End of life management is essential. Products may be a burden on the environment in terms of wastewater loading and treatment, emissions of VOCs and resource consumption.
- If surfactants are not easily biodegraded, they may persist and harm ecosystems.
- May be toxic. County employees and contracted cleaning staff who use these products are exposed to hazards and potential injury on the job.

Things to Consider Before Buying or If You Write Your Own Specifications

- Preference should be for products that are biodegradable, not toxic or chlorinated, and standardized as much as possible to reduce the number of chemicals in use.
- Avoid petroleum based products. Instead specify products that are made from natural or bio-based materials like plants, fruits or trees (i.e. citrus and pine oil).
- Require current MSDS sheets on all products as a Purchase Order request to be delivered with the product.
- Chose pump sprays instead of aerosols. Aerosols produce a finer mist that is likelier to be inhaled by workers, and their containers may be hazardous if punctured.
- Low volatile organic compound (VOC) emissions.
- Minimal packaging in refillable or recyclable containers.
- Specify products that meet Green Seal or EPA standards or other nationally recognized environmental organization.
- Require flashpoint >200°F.
- Buy in a concentrated form.
- Read the labels and avoid products that include the following cautions:
 - Warning: Mild to moderate hazard
 - Danger: extremely flammable, corrosive, or highly toxic
 - Poison: highly toxic
- Recycle cleaners at any of the County's four staffed Recycling Centers. Go to www.wipeoutwaste.com or www.charmeck.org/Departments/LUESA/solid+waste/household+hazardous+waste/home.htm for additional information.

Availability

Green Seal compliant cleaners are widely available through various vendors, distributors, and catalogs including, but not limited to, *Spartan, Buckeye, Johnson Wax, and Safesource* manufactured products. For a complete listing visit:

<http://www.greenseal.org/findaproduct/index.cfm>

There are many vendors that offer cleaning products that have registered with Charlotte Mecklenburg. Please check the Vendor Management System (VMS), or Advantage for a complete listing and require the vendor to quote Green Seal approved or EPA compliant products when feasible.

2.2.2 Janitorial Paper Products

Overview

What products do we use a lot, can use only once, and never use again? The answer is bathroom & facial tissues, paper towels and toilet seat covers.

These products cannot be recycled, thereby eliminating the potential to replenish what has been consumed. According to Green Seal, use of post consumer fibers reduces the impact on landfills by saving 3.3 cubic yards of space for every ton of paper that is re-channelled.

Mecklenburg County Environmental Policy Requirements:

Products must contain 100% recycled content material and meet the Green Seal standards. Refer to the *Environmental Policy Action Plan* for annual goals

Potential Environmental Impacts

- Manufacture of products may release substances that contaminate the environment and enter the solid waste stream.
- Land resources can be degraded due to the manufacture process.

Things to Consider Before Buying or If You Write Your Own Specifications

- Products must be 100% recycled and contain a minimum 20% post consumer content.
- Request minimum packaging of all products. Packaging should be recyclable.
- Require bleach free products.

Availability

Green Seal lists the following paper manufacturers, among others: *AmSan, Cascades, Hillyard, and Wausau/Baywest*. Mecklenburg County has installed Green Seal certified Wausau/Baywest products in all facilities. Please check with the Real Estate Services / Building and Grounds Department for all janitorial paper product needs.

2.2.3 Plastic Trash Bags (Can Liners)

Overview

A staple in most workplaces, plastic waste bags are used in trash cans or recycling bins. Their use conserves energy and promotes recycling. Workplaces can save money by instructing staff to replace bags only when they are too dirty or full for the work setting in which they are used.

Mecklenburg County Environmental Policy Requirements: Refer to the *Environmental Policy Action Plan* for annual goals

Potential Environmental Impacts

- Use of recycled plastic trash bags conserves energy and promotes recycling.
- Manufacture of products may release substances that contaminate the environment and enter the solid waste stream.
- Land resources can be degraded due to the manufacture process.

Things to Consider Before Buying or If You Write Your Own Specifications

- Products must contain a minimum 10% post consumer content.
- Any bag can fail if stressed beyond its intended use. Performance features such as puncture and tear resistance should be reviewed before choosing any bag, regardless of whether it has recycled content.
- When purchasing bags, work with the vendor to determine the size, thickness, durability and other performance requirements that are appropriate for your application.
- Bags should be lead free.
- Bags should be non-toxic when incinerated, disposed of in a landfill, or decomposed in composting.

Availability

The availability of bags featuring recycled content is somewhat dependent on the type of bag. For bags ranging in capacity from 7 to 56 gallons and in thickness from 0.35 to 1.35 millimeters, products are widely available with up to 100% post-consumer recycled-content plastic. However, recycled content may be difficult to find in certain colors, sizes, and thicknesses.

Mecklenburg County currently has the following BOCC approved contract in place for trash bags:

Calico Industries, Inc.
Ben Early
P.O. Box 2005
9045 Junction Drive
Annapolis Junction, MD 20701
Phone: 800.638.0828
Fax: 301.498.2056

2.3 Office Electronics and Computers

2.3.1 Computers and Monitors

Overview

Computers are an integral part of most County offices but most contain materials that can pose a threat to the environment if not managed carefully at the end of their useful life. Desktop color monitors typically contain about two or more pounds of lead and lead can also be found inside in the circuit boards of the computer.

Mecklenburg County Environmental Policy Requirements:

Computers and monitors should be Energy Star® certified www.energystar.gov and rated gold or silver by EPEAT: www.epeat.net. All Energy Star® features will be enabled when the product is installed. Refer to the *Environmental Policy Action Plan* for annual goals .

Potential Environmental Impacts

- Improper disposal of computer equipment can release lead and/or other toxins into the environment.
- Can consume excessive energy when the machines are on but not in use. Fifteen percent of office energy use is from computers and their peripherals.

Things to Consider Before Buying or If You Write Your Own Specifications

- Mecklenburg County IST Department must be consulted before configuring or ordering any computer equipment.
- Equipment should be Energy Star® certified.
- Computers should be recycled through the County’s surplus furniture and electronics recycling program. IST 2HELP should be contacted for disposal of all IT assets.

Availability

Many computer manufacturers participate in the Energy Star® program. Please consult with Mecklenburg County’s IST Department before purchasing any computer.

2.3.2 Office Electronics

Overview

Electronics like printers, copiers, fax machines, scanners, multifunction devices, telephones, radios, TVs, computers, cell phones and the batteries that power most of these are items we rely on daily. These products make up the bulk of electronics that have the potential to cause the most environmental damage because of their hazardous ingredients. This section of waste is referred to as electronic waste, or e-waste. The environmental benefits of [purchasing Energy Star electronics](#) include: reducing the amount of energy needed to power electronics, reducing the amount of raw natural resources necessary to create electronics by purchasing products with recycled content, and increasing the use of non-hazardous or less hazardous substitutes.

Mecklenburg County Environmental Policy Requirements:

Electronics should be Energy Star® certified when possible and all Energy Star® features will be enabled when the product is installed. Employees must participate in the Property Disposal Procedure (administered by Real Estate Services) to allow for reuse and recycling of electronic office equipment when available. Refer to the *Environmental Policy Action Plan* for annual goals

Potential Environmental Impacts

The specific dangers of electronic waste are the effects that lead, cadmium, mercury, hexavalent chromium, plastics, PVC, and brominated flame retardants have on human health and the environment.

- Lead - can cause damage to both the central and peripheral nervous systems and the kidneys. It can also cause damage to the blood system. The effects of lead to the endocrine system have also been observed and its serious negative effects on the development of the brain in children have been well documented. In addition, lead accumulates in the environment and has high acute and chronic toxic effects on plants, animals and microorganisms.
- Cadmium - Cadmium compounds are classified as “toxic” with a possible risk of irreversible effects on human health since cadmium and cadmium compounds accumulate in the body, particularly in the kidneys. In addition, cadmium is also absorbed through respiration and is taken up with food.
- Mercury - Methylated mercury has been found to cause chronic damage to the brain.
- Hexavalent chromium - has been found to produce various toxic effects within the cells. For example, it has been found to cause strong allergic reactions in humans, even in small concentrations. Asthmatic bronchitis is a common allergic reaction that is linked to hexavalent chromium. Hexavalent chromium can also cause DNA damage.
- PVC - PVC is a difficult plastic to recycle and it also contaminates other plastics in the recycling process. Of more importance, however, is the fact that the production and burning of PVC products generates dioxins and furans, which are persistent organic pollutants. PVC, which is commonly used in packaging and household products, is a major cause of dioxin formation in open burning and garbage incinerators.
- Brominated flame retardants - are a class of brominated chemicals that are commonly used in electronic products as a means for reducing flammability. BFR’s act as endocrine disrupters. They also cause an increased risk of cancer to the digestive and lymph systems.
- Energy use – less energy use results in production of fewer GHG emissions.

Things to Consider Before Buying or If You Write Your Own Specifications:

- Do the products that will be purchased meet the Energy Star specifications for energy efficiency?
- For products where there is not a Energy Star rating: Are the products being purchased among the most energy efficient in their product category?
- Reduction/elimination of environmentally sensitive materials
- Materials selection
- Design for end of life
- Product longevity/life cycle extension
- Energy conservation
- Packaging.

Availability

Most consumer electronics manufacturers participate in the Energy Star® and/or EPEAT programs.

2.4 Landscape Materials

2.4.1 Mulch

Overview

Mulch is an insulating material that is spread over the ground and is largely used as a decorative soil surface cover but actually has many horticultural benefits. Shredded wood or chips, and straw are just some of the materials that can be used as mulch. In landscaping and construction projects, mulch is used as a surface material for erosion control or as a temporary road base.

Mecklenburg County Environmental Policy Requirements:

Horticultural mulch made with recycled land clearing and other wood debris should be used.

Potential Environmental Impacts

- Reduces erosion
- Suppresses weeds
- Improves water retention

Things to Consider Before Buying or If You Write Your Own Specifications

- Consider the size of material, texture, composition of material, aesthetics, water-holding capacity, and odor. Specifications vary according to type of mulch and intended use.

Availability

Mecklenburg County Yard Waste facilities produce hardwood, pallet, and red mulch for sale in bulk and bags.

Visit <http://www.charmeck.org/Departments/LUESA/Solid+Waste> for pricing and to find the nearest facility.

Mulch is also available from many local landscape companies. Please check the Vendor Management System (VMS), or Advantage for a complete listing and require the vendor to quote environmental preferable products when feasible.

2.4.2 Compost

Overview

Compost is a valuable soil amendment that is produced from composting the decomposition of organic materials such as yard trimmings, food scraps, and animal waste...or waste products no one else wants or needs. From both an environmental and an economic viewpoint, recycling wastes for use as raw material in the manufacture of compost products makes sense. But beyond the obvious benefits of compost manufacture are the equally impressive advantages of compost use in conjunction with or instead of synthetic products for farming, gardening, and landscaping. You can learn more about locally produced compost at: www.carolinacompost.com/

Mecklenburg County Environmental Policy Requirements:

Compost should meet the US Composting Council Seal of Testing Assurance. (www.compostingcouncil.org) Refer to the *Environmental Policy Action Plan* for annual goals

Potential Environmental Impacts

- Improves soil porosity for clay soils
- Improves water retention for sandy soils
- Makes soil more resistant to disease
- Reduces pests and the need for pesticides
- Reduces erosion
- Suppresses weeds
- Enhances storage and slow release of nutrients

Things to Consider Before Buying or If You Write Your Own Specifications

Compost produced at Mecklenburg County yard waste facilities meets the US Composting Council Seal of Testing Assurance Program requirements.

Availability

Compost is available for sale in bulk and bags. Call 704-588-9070 for deliveries. Visit

<http://www.charmeck.org/Departments/LUESA/Solid+Waste> for pricing and to find the nearest yard waste facility.

2.4.3 Native Plants

Overview

Native plants are those that evolved naturally in North America. More specifically, plants in a particular area are those that were growing naturally in the area before humans introduced plants from distant places.

Mecklenburg County Environmental Policy Requirements:

The County goal is to meet the Native Plant use and exotic prohibitions listed herein 100%. Refer to the *Environmental Policy Action Plan* for annual goals

Potential Environmental Impacts

- Native plants have evolved and adapted to local conditions over thousands of years. They are vigorous and hardy, therefore can survive winter cold and summer heat.
- Native plants are resistant to most pests and diseases which decreases the need for pesticides and herbicides.
- They typically do not require irrigation, which conserves water and saves money.
- Native vegetative buffers are particularly effective along streams, lakes and wetlands where they help to improve water quality.

Availability

The list below is not a comprehensive list of invasive species but intended to identify those invasive species that are available for purchase. Mecklenburg County Land Use & Environmental Services Agency (LUESA) has compiled a listing of North Carolina vendors that can provide native plants. This list is available at:

<http://www.charmeck.org/Departments/LUESA/Solid+Waste/PLANT+Program/Home.htm>

2.4.3 Things to Consider Before Buying or If You Write Your Own Specifications

Prohibited invasive exotic species and suggestions for native alternatives (adopted by the Mecklenburg County Environmental Leadership Team, May 2008)

| Scientific Name | Common Name | Suggested Native Alternatives |
|--|--|---|
| <i>Ailanthus altissima</i> | Tree-of-Heaven | <i>Juglans nigra</i> (Black Walnut) |
| <i>Akebia quintata</i> | Five-leaf Akebia | <i>Gelsemium sempervirens</i> (Carolina Jessamine) |
| <i>Albizia julibrissin</i> | Mimosa | <i>Amorpha fruticosa</i> (Leadplant), <i>Pinckneya pubesens</i> (Georgia Feverbark Tree), <i>Robinia hispida</i> (Rose-acacia Locust) |
| <i>Ampelopsis brevipedunculata</i> | Porcelain Berry | <i>Callicarpa americana</i> (American Beautyberry) |
| <i>Bambusa spp.</i> | Bamboo Species | |
| <i>Berberis thunbergii</i> | Japanese Barberry | <i>Callicarpa americana</i> (Beautyberry) |
| <i>Buddleia davidii</i> | Butterfly Bush | <i>Aesculus parviflora</i> (Bottlebrush Buckeye) |
| <i>Clerodendron bungei</i> | Harlequin Glorybower | <i>Rhododendron prunifolium</i> (Plumleaf Azalea) |
| <i>Elaeagnus spp.</i> | Autumn silverberry, Spring silverberry, Autumn olive | <i>Ilex opaca</i> (American holly), <i>Lindera banzoin</i> (Spicebush) |
| <i>Euonymus alatus</i> | Winged Euonymus | <i>Itea virginica</i> (Virginia Sweetspire) |
| <i>Euonymus fortunei</i> | Creeping Wintercreeper | <i>Antennaria plantaginifolia</i> (Southern Pussytoes) |
| <i>Hedera helix</i> | English ivy | <i>Bignonia capreolata</i> (Crossvine), <i>Gelsemium sempervirens</i> (Carolina jessamine), <i>Mitchella repens</i> (Partridge berry) |
| <i>Ilex cornuta</i> | Chinese Holly | <i>Illex glabra</i> (Inkberry) |
| <i>Lespedeza bicolor</i> | Bicolor Lespedeza | |
| <i>Lespedeza cuneata</i> | Sericia Lespedeza | |
| <i>Ligustrum spp.</i> | Japanese privet, Chinese privet | <i>Sambucus canadensis</i> (Common elderberry), <i>Ilex opaca</i> (American holly), <i>Lindera banzoin</i> (Spicebush) |
| <i>Liriope muscari</i> | Liriope | <i>Carex plantaginea</i> (Plantain-leaved Sedge), <i>Sisyrinchium angustifolium</i> (Blue-eyed grass) |
| <i>Lonicera spp.</i> | Sweet-breath-of-spring, Japanese honeysuckle, Amur honeysuckle | <i>Callicarpa americana</i> (Beautyberry), <i>Gelsemium sempervirens</i> (Carolina jessamine) |
| <i>Lygodium japonicum</i> (American Climbing Fern) | Japanese Climbing Fern | <i>Lygodium plamatum</i> (American Climbing Fern) |
| <i>Mahonia bealei</i> | Leatherleaf Mahonia | <i>Viburnum nudum</i> (Possumhaw Viburnum), <i>Viburnum bracteatum</i> 'Emerald Lustre' (Emeral Luster Viburnum), <i>Callicarpa americana</i> (American Beautyberry) |
| <i>Miscanthus sinense</i> | Chinese silver grass | <i>Panicum virgatum</i> (Switchgrass), <i>Sorghastrum nutans</i> (Indian grass) |
| <i>Nandina domestica</i> | Nandina, Sacred-bamboo | <i>Xanthorhiza simplicissima</i> (Yellowroot), <i>Callicarpa americana</i> (Beautyberry), <i>Sambucus canadensis</i> (Common elderberry), <i>Itea virginica</i> (Virginia willow) |
| <i>Paulownia tomentosa</i> | Princess tree | <i>Chionanthus virginiana</i> (Fringe-tree), <i>Cercis canadensis</i> (Redbud), <i>Tilia americana</i> (Basswood) |
| <i>Phyllostachys spp</i> | Running Bamboo | <i>Arundinaria gigantea</i> (Switch Cane) |
| <i>Polygonum perfoliatum</i> | Mile-a-minute | |
| <i>Polygonum cuspidatum</i> | Japanese Knotweed | |
| <i>Pyrus calleryana</i> | Bradford pear | <i>Cornus florida</i> (Flowering dogwood), <i>Cercis canadensis</i> (Redbud) |
| <i>Rosa Multiflora</i> | Multiflora Rose | <i>Itea virginica</i> (Virginia Sweetspire) |
| <i>Spirea japonica</i> | Japanese Spirea | |
| <i>Vinca spp.</i> | Periwinkle species | <i>Bignonia capreolata</i> (Crossvine), <i>Gelsemium sempervirens</i> (Carolina jessamine), <i>Mitchella repens</i> (Partridge berry) |
| <i>Wisteria spp.</i> | Wisteria species | <i>Wisteria frutescens</i> (American wisteria) |

2.5 OFFICE SUPPLIES

2.5.1 Copy Paper and Paper Products

Overview

Paper products include, but are not limited to, copy paper, hanging file folders, envelopes, note pads, post it notes and pre-printed forms, brochures, business cards, and archiving boxes. Recycled paper products are available in many colors, are equal in quality and performance and cost the same or less as virgin products.

Mecklenburg County Environmental Policy Requirements:

Employees are required to participate and adhere to the Re-Think recycling program guidelines. Refer to the *Environmental Policy Action Plan* for annual goals

Potential Environmental Impacts

- Discarded paper products can create a contamination problem and decreases the value of the recycled material.
- In most cases, paper products placed in the trash would be disposed of in a landfill instead of marketed as a commodity as intended.

Things to Consider Before Buying or If You Write Your Own Specifications

- Look for products made from recycled contents.
- Request printing companies to use recycled paper for all pre-printed forms, brochures or other custom printed materials.
- Evaluate the need for multi part forms. A one-part form may suffice.
- Consider reformatting forms to decrease the size.
- Print on both sides when practicable.
- Recycle paper and paper products through the County's Re-Think Recycling program.

Availability

Mecklenburg County currently has the following BOCC approved contract in effect for office supplies, which includes copy paper:

Office Depot
Dava Biggerstaff
888.213.8948x5701
dava.biggerstaff@officedepot.com

Office supplies should be ordered on-line by authorized users. County Finance will provide a form to County employees designated to order supplies for their department. Upon Finance approval, Office Depot will set up the user and provide a user ID and password. All orders placed on line at <https://bsd.officedepot.com> are invoiced monthly on a Countywide summary billing submitted directly to the County Finance Department.

2.5.2 Miscellaneous Office Supplies (non-paper)

Overview

Office supplies manufacturers are increasingly offering a wide range of products made from recycled materials. Many items made from metal or plastic such as 3-ring binders, desk accessories, CDs and diskettes, mouse pads, paper clips and pens & pencils are available with recycled content materials.

Mecklenburg County Environmental Policy Requirements:

Office supply items made of metal, plastic, or paper (other than copy/printer paper) should contain a minimum 10% recycled content and/or be Green Seal certified materials whenever practicable. Refer to the *Environmental Policy Action Plan* for annual goals.

Potential Environmental Impacts

- Buying recycled products conserves natural resources; saves energy; reduces solid waste; and reduces air and water pollutants.

Things to Consider Before Buying or If You Write Your Own Specifications

- Look for products that contain post-consumer material contents.
- Consider refillable products such as pens and pencils.
- Consider non-toxic highlighters, markers, correction fluid, and other items identified in the supply catalogs with environmental symbols for easy recognition.
- The ability to reuse or donate the product within your department or within the County.

Availability

Many manufacturers of various office products offer recycled content items including, Esselite, Glove-Weis, Bic, Paper Mate, ACCO, Sanford, Eberhard Faber, 3M, Kraft, and DuPont. These manufacturers are offered by Office Depot. Mecklenburg County currently has the following BOCC approved contract in effect for office supplies:

Office Depot
Dava Biggerstaff
888.213.8948x5701
dava.biggerstaff@officedepot.com

Office supplies should be ordered on-line by authorized users. County Finance will provide a form to County employees designated to order supplies for their department. Upon Finance approval, Office Depot will set up the user and provide a user ID and password. All orders placed on line at <https://bsd.officedepot.com> are invoiced monthly on a Countywide summary billing submitted directly to the County Finance Department.

2.5.3 Printing Cartridges

Overview

Printing cartridges are widely used in photocopy and facsimile equipment, as well as in laser printers.

Cartridges are often thrown away once the toner inside the cartridge is used up, typically after several thousand copies have been made, depending on the make and model of the printing cartridge.

Cartridges contain many components that are in great condition at the end of the expected life of the cartridge. The practice of re-manufacturing printing cartridges involves disassembling the unit, inspecting and cleaning components, and replacing or refurbishing the unit's organic photoreceptor cell and replacing the supply of toner

Mecklenburg County Environmental Policy Requirements:

Inkjet cartridges and laser toner cartridges bought by Mecklenburg County should be remanufactured cartridges when ever available. Please note that remanufactured cartridges are not available for all models of printers. Refer to the *Environmental Policy Action Plan* for annual goals .

Potential Environmental Impacts

- End of use disposal creates non-recyclable waste.
- Plastics and toners can be detrimental to land and water resources.
- Remanufactured toner cartridges save resources by reusing components instead of disposing of them after one use.

Things to Consider Before Buying or If You Write Your Own Specifications

- Take a look at the company
- Look for a guarantee
- Check out their customer service

Availability

Mecklenburg County currently has the following BOCC approved contract in effect for office supplies:

1. Vendor: **Sunbelt Office & Data Supplies**
Contact: Bryan Burns
Phone: 704.525.3813 X205
e-mail: bryan@sunbeltofficesupply.com

This vendor provides the County with inkjet, laser jet and toner cartridges, and offer recycled or remanufactured cartridges.

This vendor also provides a free pick up service of used cartridges. Cartridges are recycled or remanufactured which keeps them from becoming waste in our landfills.

2.6 Furniture and Panel Systems

Overview

Office furniture and panel systems are made with a variety of materials including gypsum board, metal, wood and wood based products, plastic and fabric. As a result of the different materials that may be used in manufacture, various environmental issues must be taken into account. LEED now allots one point toward LEED certification to "use salvaged, refurbished or used furniture and furnishings for 30% of the total furniture and furnishings budget."

Refurbished office furniture is first touched up or otherwise cosmetically improved before being resold. By comparison, remanufactured office furniture typically has had greater value added to the product and is commonly completely disassembled; its parts are inspected, cleaned, repaired or replaced.

Mecklenburg County Environmental Policy Requirements: Please refer to the County's Property Disposal and Reuse Policy. Look for GREENGUARD® certified or Green Seal compliant furniture products. Refer to the *Environmental Policy Action Plan* for annual goals.

Potential Environmental Impacts

- Materials used in office furniture and panel systems may emit VOCs when installed, immediately impacting indoor air quality.
- Building agents such as resins used in composite wood products can affect indoor air quality.
- The design and manufacture of furniture can effect resource utilization, pollution and worker health and safety.
- Waste generated from the manufacture and disposal of these products can be minimized through reuse, remanufacture and recycling.

Things to Consider Before Buying or If You Write Your Own Specifications

- Re-use existing furniture where possible and refurbish if desired.
- Look for classic designs that will last without looking dated
- Consider quality carefully. Low-cost products may break more readily and offer fewer repair options.
- Avoid products containing ozone depleting substances and volatile organic compounds.
- Require reusable and demountable panel systems.
- Look for the highest recycled contents.
- Avoid fiberglass reinforcements.
- Consider Refurbished ,Remanufactured and New Office Furniture with Recycled Content Office Furniture
- Furniture should be recycled in county's surplus furniture and electronics recycling program. See your departmental coordinator for program specifics.

Availability

GREENGUARD® certified furniture includes many manufacturers such as *Knoll, Allsteel, Herman Miller, Dar-Ran, and Steelcase*. The County currently utilizes several of these manufacturers through the U.S. Communities Cooperative Purchasing Program as follows:

- | | |
|----|--|
| 1. | Manufacturer: Knoll Local Vendor: Carolina Business Interiors (CBI) Contact: Todd Wilson or Jack Hunter Phone: 704.525.7630 X232 e-mail: toddw@cbi-nc.com or jack.hunter@cbi-nc.com |
| 2. | Manufacturer: Herman Miller Local Vendor: Klingman Williams, Inc. Contact: Russ Cox Phone: 704.338.9373 |

| | |
|------------------|--|
| 3. Manufacturer: | Haworth |
| Local Vendor: | Office Interiors Inc |
| Contact: | Trisha Horne Phone: 704.361.6761 e-mail: thorne@oiteam.com |
| 4. Manufacturer: | KI |
| Local Vendor: | Carolina Business Interiors (CBI) |
| Contact: | Todd Wilson or Jack Hunter Phone: 704.525.7630 X232 e-mail: toddw@cbi-nc.com or jack.hunter@cbi-nc.com |
| 5. Manufacturer: | Allsteel |
| Local Vendor: | MacThrift Office Furniture |
| Contact: | S. Casuccio Phone: 800.261.1250 |

2.7 LIGHTING PRODUCTS

Overview

With lighting typically accounting for 30% to 50% of energy use in most buildings, finding ways to increase lighting efficiency can result in significant savings. With the use of energy efficient lighting products, such as fluorescent lamps and energy efficient ballasts, electric lighting costs can be reduced by as much as 60%. Newer lamps and ballasts generate less heat than older models and last longer.

According to ENERGY STAR, if every American home replaced just one light bulb with an ENERGY STAR certified bulb, we would save enough energy to light more than 2.5 million homes for a year and prevent greenhouse gases equivalent to the emissions of nearly 800,000 cars.

Mecklenburg County Environmental Policy Requirements:

All lighting should be Energy Star equivalent low mercury fluorescent lamps. Exterior lighting should consider the use of light shields, otherwise known as full cut-off lights. Refer to the *Environmental Policy Action Plan* for annual goals

Potential Environmental Impacts

- Higher energy costs with inefficient lighting fixtures or inefficient lighting design
- End of use disposal problems

Things to Consider Before Buying or If You Write Your Own Specifications

- Use a qualified design professional to assist with layout and selection of lighting fixtures. Require a lifecycle analysis as part of the design deliverables. Compare the use of T-8's vs T-5's for fluorescents. For high bay fixtures, consider T5HO as one of the options. As new technologies become available, they should be considered as applicable.
- Use low wattage and reflective fluorescent bulbs whenever possible
- Electronic ballasts are preferred.
- When ballasts need replaced on fixtures with T-12 lamps, replace with electronic ballasts and T-8 lamps or better.
- Use task lighting to minimize the need for overhead lighting when possible. At a minimum, use of T-8 lamps and compact fluorescents are preferred.
- Recycle lamps/bulbs at any of the county's four staffed Recycling Centers. Go to www.wipeoutwaste.com for additional information.

Availability

There are many vendors that offer Energy Star approved lighting that have registered with Charlotte Mecklenburg. Please check the Vendor Management System (VMS), or Advantage for a complete listing and require the vendor to quote Energy Star approved when feasible.

2.8 PARK AND RECREATION PRODUCTS

2.8.1 Playground Systems and Components

Overview

Slides, swings, climbing equipment, merry-go-rounds, and seesaws are all different types of playground equipment. These items can be made with recovered wood, steel, and aluminum. A typical set of playground equipment made with recovered-content plastic can contain plastic recovered from between 31,500 and 63,000 milk and water jugs.

Mecklenburg County Environmental Policy Requirements:

Playground Equipment must be made with a minimum 20% recycled content (steel, rubber, aluminum, and plastic). Refer to the *Environmental Policy Action Plan* for annual goals .

Potential Environmental Impacts

- Treated wood products may contain chemicals that are hazardous to children’s health.
- Paint used to coat playground components may contain lead or other health hazard chemicals.

Things to Consider Before Buying or If You Write Your Own Specifications

When buying park and recreation items look for products made with the following environmentally preferable attributes:

- Recycled steel tubing, sheets and wire
- Recycled aluminum uprights and castings
- 100% post consumer recycled plastic curbing options
- Several options for 100% post consumer recycled rubber surfacing
- 100% post consumer recycled roof and deck options
- Recycled packaging materials
- EPA recommends that procuring agencies use the specifications found in the US Consumer Product Safety Commission (CPSC) Publication No. 325 (Handbook for Public Playground Safety) and ASTM standard F-1487-95, *Safety Performance Specifications for Playground Equipment for Public Use*, when procuring playground equipment. Playground equipment may also be subject to state and local codes and standards as well as Federal child safety laws.
- Recycle Park and Recreation products in department’s specified program. Additional resources can be found at www.wipeoutwaste.com.

Availability

Mecklenburg County currently has three (3) BOCC approved contracts in place as follows:

1. Manufacturer: GameTime
 Local Vendor: Cunningham & Associates
 Contact: Scott Cunningham
 Phone: 704.525.5174 X127

2. Manufacturer: Landscape Structures
 Local Vendor: Carolina Recreational Products
 Contact: Russ Cox
 Phone: (800) 542-3887
 e-mail: rcox@carolinarec.com

3. Manufacturer: Little Tikes
 Local Vendor: Peggs Recreation
 Contact: Eric Lowder
 Phone: 704-933-0008
 e-mail: www.peggsrecreation.com

2.8.2 Site Furnishings

Overview

Park benches, picnic tables, and recycling containers are found in most of the Mecklenburg County’s parks, outdoor recreational facilities, and on the grounds of office buildings. Recycled milk jugs and aluminum and steel cans can be used to manufacture these items.

Mecklenburg County Environmental Policy Requirements:

Site Furnishings should be made with a minimum 20% recycled content (steel, rubber, plastic and aluminum). Refer to the *Environmental Policy Action Plan* for annual goals.

Potential Environmental Impacts

- Buying recycled content products conserves natural resources, reduces solid waste, saves energy, reduces air and water pollutants and greenhouse gases.

Things to Consider Before Buying or If You Write Your Own Specifications

When buying park and recreation items look for products made with the following environmentally preferable attributes:

- Recycled steel tubing, sheets and wire
- Recycled aluminum uprights and castings
- 100% post consumer recycled plastic curbing options
- Several options for 100% post consumer recycled rubber surfacing
- 100% post consumer recycled roof and deck options
- Recycled packaging materials
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2. Manufacturer: Landscape Structures
 Local Vendor: Carolina Recreational Products
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 Phone: (800) 542-3887
 e-mail: rcox@carolinarec.com

3. Manufacturer: Little Tikes
 Local Vendor: Peggs Recreation
 Contact: Eric Lowder
 Phone: 704-933-0008
 e-mail: www.peggsrecreation.com

2.8.3 Surfacing Materials

Overview

Playground surfaces can contain recovered rubber and PVC materials that are often more desirable than wood chips, sand, or asphalt, because they can provide more cushioning and thereby may be safer for children. You can find playground surfaces at most County parks and many schools.

Mecklenburg County Environmental Policy Requirements:

Surfacing must be made from a minimum 50% recycled content materials (rubber). Refer to the *Environmental Policy Action Plan* for annual goals.

Potential Environmental Impacts

Surfacing made from shredded tires may release toxic chemicals in certain conditions (water runoff).

Things to Consider Before Buying or If You Write Your Own Specifications

When buying park and recreation items look for products made with the following environmentally preferable attributes:

- Recycled steel tubing, sheets and wire
- Recycled aluminum uprights and castings
- 100% post consumer recycled plastic curbing options
- Several options for 100% post consumer recycled rubber surfacing
- 100% post consumer recycled roof and deck options
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2.9 Traffic Control Products

Overview

Traffic cones are used to mark a road hazard or to direct traffic. These are typically made from plastic, and/or rubber. Traffic barricades can be used to redirect or restrict traffic in areas of highway construction or repair. They are typically made from wood, steel, plastic, fiberglass, or a combination of these materials.

Mecklenburg County Environmental Policy Requirements:

The EPA recommends 50% - 100% total recovered materials content. www.epa.gov/cpg. Refer to the *Environmental Policy Action Plan* for annual goals.

Potential Environmental Impacts

- Recycled products conserve natural resources, reduce solid waste and reduce air and water pollutants.

Things to Consider Before Buying or If You Write Your Own Specifications

- Transportation products containing recovered materials must conform to the Manual on Uniform Highway Traffic Control Devices used by the Federal Highway Administration, and NC Department of Transportation.
- Parking stops made from recycled plastics or rubbers are maintenance free. Unlike concrete stops, they will not crack or crumble.
- Heavier than their plastic-only counterparts, recycled rubber bases on products including traffic cones, safety posts (delineators), and barrels offer greater durability.
- Many of these products have multi-year warranties.
- Recycle vehicle maintenance products in department’s specified program. Additional information and resources can be found at www.wipeoutwaste.com.

Use the following federal guidelines when purchasing traffic control products and require subcontractors to comply with these guidelines also.

| PRODUCT | RECOVERED MATERIAL CONTENT |
|---|--|
| Traffic Cones | |
| Plastic (PVC and LDPE) | 50% to 100% total recovered content |
| Rubber | 50% to 100% total recovered content |
| Traffic Barricades (type I and II only) | |
| Plastic | 80% to 100% post-consumer recycled content |
| Steel | 16% to 67% post-consumer recycled content |
| Fiberglass | 100% total recovered content |
| Parking Stops | |
| Plastic or Rubber | 100% post consumer recycled content |
| Concrete Containing Coal Fly Ash | 20% to 40% total recovered content |
| Concrete Containing Ground Granulated Blast Furnace Slag (GGBF) | 25% to 70% total recovered content |
| Channelizers | |
| Plastic | 25% to 95% post-consumer recycled content |
| Rubber base | 100% post-consumer recycled content |
| Delineators | |
| Plastic | 25% to 90% post-consumer recycled content |
| Rubber base | 100% post-consumer recycled content |
| Steel base | 25% to 50% post-consumer recycled content |
| Flexible Delineators | 25% to 85% post-consumer recycled content |

2.10 Vehicle Maintenance Products

2.10.1 Oils and Lubricants

An Overview

This category includes motor oil, hydraulic fluids, chassis grease, and transmission fluids.

Statistics show that over one billion quarts of lubricating and related oils are sold in the United States annually. Less than half of these oils are available for reclamation. Over 50,000 gallons of used motor oil are collected at Mecklenburg County recycling centers annually. Used oil can be collected, cleaned and re-refined into new oil products. One gallon of used motor oil will yield about 0.7 gallons of re-refined oil. Re-refined oil has been used throughout the United States with great success for many years, even in high-performance, mission-critical safety vehicles.

Nationally, the U.S. Postal Service has been using re-refined oil for over a decade in its fleet of almost 75,000 vehicles.

Mecklenburg County Environmental Policy Requirements:

Products must meet EPA standards. A proper disposal plan is required. Refer to the *Environmental Policy Action Plan* for annual goals.

Potential Environmental Impacts

- Improper disposal of used oil and lubricants into garbage cans, sewers and backyards result in contamination of soil, drinking water supplies and ground water.
- Used motor oil contains pollutants, including organic chemicals and metals which are toxic to humans, wildlife and vegetation.
- Just one gallon of used oil has the potential of contaminating up to one million gallons of drinking water.
- Used motor oil can be reprocessed into heating fuels, re-refined into lubricating oils or cleaned and reused.

Things to Consider Before Buying or If You Write Your Own Specifications

- Used engine oil and solvents are considered waste and must be transported accordingly under applicable federal and state regulations.
- Recycle vehicle maintenance products in department's specified program. Additional information and resources can be found at www.wipeoutwaste.com.

Availability

Re-refined oil comes in a variety of blends suitable for different types of gas and diesel engines. Two refineries in the U.S. produce the base oil: Evergreen Oil in California and Safety-Kleen in Illinois. Oil blenders purchase the base stock, combine it with additives, and sell it as a finished product under various brand names. Unocal, Chevron, Safety-Kleen, Coast Oil, Rosemead Oil, and Lyondell are the major blenders. Re-refined oil is available through oil dealers, auto service centers, and retailers. *Auto Zone* currently offers re-refined motor oils through their U.S. Communities contract for automotive parts and accessories. You may purchase at any *Auto Zone* location.

2.10.2 Antifreeze

An Overview

According to Federal EPA guidelines, recycled engine coolants, also known as antifreeze, might actually be purer than virgin coolant because the recycling process reduces the chlorides that come from hard water. Testing shows that, like new coolant, recycled coolant meets nationally recognized performance specifications established by the American Society for Testing Materials (ASTM) and the Society of Automotive Engineers (SAE).

Mecklenburg County Environmental Policy Requirements:

Products must meet EPA standards. A proper disposal plan is required. Refer to the *Environmental Policy Action Plan* for annual goals.

Potential Environmental Impacts

- Toxic to small children and may be deadly to animals attracted by its sweet taste.
- Spent antifreeze may contain metals from the engine (lead, zinc, copper).

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- Can disturb the biological action of sewage treatment and septic systems.
- Special rules apply to waste antifreeze and precautions must be taken to ensure its proper management.

Things to Consider Before Buying or If You Write Your Own Specifications

- Extended-life antifreeze is designed to last five years/150,000 miles or longer, which greatly reduces the need to purchase new and manage used antifreeze.
- Whether you recycle your own antifreeze or use a service, the recycled product should include the addition of chemicals to recondition the antifreeze. Check with the manufacturer to see which type of recycled product is appropriate for each vehicle.

Availability

EPA does not recommend one type of engine coolant over another. EPA recommends, however, that procuring agencies purchase engine coolant containing only one base chemical, typically ethylene glycol or propylene glycol, to prevent the commingling of incompatible types of engine coolant.

Mecklenburg County currently purchases antifreeze through NAPA.

2.10.3 Solvents and Cleaners

An Overview

In the course of routine cleaning, many shops use parts washing systems for engines and other equipment parts. Parts washing systems include standard reticulating parts washers, distillation units, and those with multiple filters. In choosing the right parts cleaning system, shops should evaluate both the equipment and the cleaning solvent it uses. Solvents clean by using a surfactant (such as soap or detergent), a corrosive or alkaline ingredient, or another type of chemical to remove soil from parts.

Mecklenburg County Environmental Policy Requirements:

Solvents and Cleaners must meet EPA Standards. A proper disposal plan is required. Refer to the *Environmental Policy Action Plan* for annual goals.

Potential Environmental Impacts

- Whether water based or petroleum based, cleaning solvents often pose exposure risks to employees, along with the waste produced during usage.
- In most instances, shops must manage wastes produced during parts cleaning as hazardous.
- Improper end-of-use disposal is a potential hazard to the land, water and human health.
- Exposure to concentrated vapors from these solvents can cause breathing problems and headaches.
- Many solvents are also ignitable.

Things to Consider Before Buying or If You Write Your Own Specifications

- Most petroleum-based systems use mineral spirits, Stoddard, or similar petroleum-based solvents.
- Cleaners with higher flashpoints (>140°F) are available to reduce the risk of ignition.
- Shops using petroleum-based cleaners must take extra precautions when using and storing the product and managing the wastes.

Availability

EPA recommends BioChem System cleaners and solvents. There are many different kinds of equipment, cleaners, and services employing Stoddard solvent, spray cabinets and services that lease equipment and collect waste cleaners. Equipment is available to purchase or lease through both manufacturers and local distributors. Cleaners are available through vehicle maintenance supply outlets, equipment manufacturers, and dealers.

How can I Get More Information?

Other sources of information on Environmentally Preferable Purchasing are available from the following agencies and websites:

The Clean Environment Company has been manufacturing and distributing an excellent line of environmentally preferable and effective commercial cleaning products for over twelve (12) years. For more product information or environmental reports visit:

www.cleanenvironmentco.com

EPPNET is a list server linked to federal, state, local and private procurement and environmental officials established by the Northeast Recycling Council. See what they have to offer at: www.nerc.org/eppnet.html

Office of the Federal Environmental Executive serves to implement stronger the federal government's commitment to recycling and buying recycled content and environmentally preferable products. The web site contains various reports and resources: www.eren.doe.gov/femp/

North Carolina Division of Purchase and Contract supports the environmentally preferable purchasing and provides information on available products, contracts and vendors. Information can be viewed at: <http://www.doa.state.nc.us/PandC/recycled.htm>

GREENGUARD Environmental Institute (GEI) is an industry-independent, non-profit organization that oversees the GREENGUARD Certification Program. As an ANSI Authorized Standards Developer, GEI establishes acceptable indoor air standards for indoor products, environments, and buildings. GEI's mission is to improve public health and quality of life through programs that improve indoor air. www.greenguard.org

Commission for Environmental Cooperation (CEC) is an international organization created by Canada, Mexico and the United States under the North American Agreement on Environmental Cooperation (NAAEC). The CEC was established to address regional environmental concerns, help prevent potential trade and environmental conflicts, and to promote the effective enforcement of environmental law. The Agreement complements the environmental provisions of the North American Free Trade Agreement (NAFTA). www.cec.org

The Plastics Division of the American Chemistry Council (ACC) represents leading manufacturers of plastic resins. We may not think about them often, but versatile plastics inspire countless innovations that help make life better, healthier and safer every day. www.americanplasticscouncil.org

Mecklenburg County Ordinance to Require the Source Separation Of Designated Materials from the Municipal Solid Waste Stream: On August 15, 2000, the Mecklenburg County Board of County Commissioners (BOCC) adopted the Solid Waste Management 10-Year Plan which established a 2006 per capita waste reduction goal of 19% from fiscal year 1999 and a 2010 per capita waste reduction goal of 23% from fiscal year 1999. To view complete details visit: <http://www.charmeck.org/Departments/LUESA/Solid+Waste/Business+Recycling/ordinance>.

Canada's Environmental Choice Program (ECP) is a comprehensive, national environmental labeling program initiated by Environment Canada. Certification of products and services is based on compliance with stringent environmental criteria that are established in consultation with industry, environmental groups and independent experts and are based on research into the life cycle impacts of a product or service. The Program's official symbol of certification is the EcoLogo™ which has been awarded to over 1,750 products, services, and technologies as an indication of their positive environmental attributes. www.environmentalchoice.com

North Carolina Recycling Business Assistance Centers / Recycling Markets Directory
www.pepays.org/rbac