

The Department's environmental programs are reflected in these six goals:

1. Reduce energy use and use renewable sources
2. Use alternative fuels when feasible
3. Purchase environmentally preferable products
4. Maximize recycling opportunities and reduce waste
5. Use Native Plants and Resilient Plants, Remove Invasive Plants On City land, Plant and Maintain Trees
6. Manage stormwater system to improve water quality, maintain system integrity and expand system where needed using low impact design.

The information contained within this report does not include general program activities related to enforcement or oversight of the City's Stormwater Ordinance or Tree Ordinance. Detailed information about both of those programs can be provided.

1. Reduce Energy Use and Use Renewable Resources:

A. Building Retrofits:

In the mid 1990's, a number of energy efficiency programs were implemented, many receiving PEPCO rebate funds. The improvements included lighting changes that eliminated incandescent bulbs and converted T-12 to T - 8's in City buildings and added occupancy sensors. An energy efficient A/C system was installed in the Municipal Building. New windows were installed at the Public Works Facility that replaced metal casement windows with double painted, argon filled, e coated windows. These improvements reduced energy use by 30%.

Additional facility improvements included replacement of metal casement windows in the library in 2006, Municipal Building boiler replaced with a more efficient three stage system in 2007. Reflective window film was added to one side of the third floor on the Community Center in 2009.

The City has tracked actual energy use for each meter since 1994. This process has identified billing errors and alerted us to problem areas within facilities. From 1994 to the present, electricity use has increased by 15%, although the square footage of building space has increased by more than that, and the use of gas has dropped 50%.

The City will be using the Maryland Energy Administrations Performance Contract Model to perform an energy audit of the Community Center. The project is scheduled to get started in December, 2009.

The City has received notice of an allocation of \$93,000 from the Energy Efficiency Community Development Block Grant Program (EECDBG). The funding parameters are still being developed, the funds are to go for energy efficiency in existing buildings or facilities. Expenditure of funds can be extended through 2012.

B. Use of Renewable Resources:

The City has purchased renewable energy credits from wind power equal to a percentage of electricity use. The program began in 2005 with 5% wind power and now is at 100%. The City is currently purchasing 2,052 REC's per year. The 2009 purchase is through Renewable Choice Energy.

C. Reduce Fleet Size:

The Equipment Maintenance Division evaluates vehicle use and makes recommendations about ways to reduce the fleet size. Since the City decided to provide take home cars for Police officers, the size of the police fleet has expanded; however, due to efficiencies in vehicle use the overall size of the fleet was reduced from 77 vehicles in FY08 to 75 vehicles in FY09. The City's fleet includes :

Administrative pool:	3(2 sedan and 1 mini-van)
Code Enforcement:	1(sedan)
Recreation:	2(large van and bus)
Police Administration:	4 (3 sedans, 1 pick up truck)
Police Support:	11 (sedans)
Police Patrol:	30 (sedans)
Public Works:	22 (5 sedans, 1 van, 6 pick up trucks, 6 dump trucks and 4 trash trucks, 1 sweeper)

The City purchased a larger recycling vehicle this year which eliminated the need for two smaller recycling vehicles. The recycling program was expanded and the processing was changed to single stream which enabled the elimination of the need to collect in two separate vehicles.

D. Reduce Fuel Use:

The Department instituted an anti-idling policy for Department vehicles. Additionally we have tested a gps unit on five vehicles that provides real time evaluation of speeding, idling and stops and starts. We plan to expand to 13 the number of vehicles with the devices this year. The device has been helpful in significantly reducing idling and providing more accurate information about routing and vehicle use.

When replacing vehicles, the Equipment Maintenance Division recommends vehicles with improved fuel efficiency. The Police recently selected the Dodge Charger for patrol cars, over the larger engine Crown Victoria.

2. Use Alternative Fuels When Feasible:

A. Bio-diesel:

The City has been using bio-diesel for over 10 years. We use a 20/80 mix. All City vehicles and equipment that have a diesel engine are fueled with bio-diesel. Our supplier is World Energy. The City uses approximately 28,000 gallons of bio-diesel annually.

B. Use of Hybrids:

The City currently has five hybrid vehicles in the fleet, or 6% of the fleet. The hybrid vehicles include two used in the Administrative car pool, one for Public Works and two for the Police Support Services Division.

C. Continue to Explore Other Options:

The Department continues to explore options for use of alternative fuels. We have looked into propane mowers, waste oil heaters, electric or battery blowers, and weed whackers.

3. Purchase Environmentally Preferable Products:

A. Purchase Preference:

The City Code includes a purchase preference for materials with recycled content and requires use of paper with recycled content. Section 7.08.140

B. Greening of Cleaning Supplies and Other Products:

The City recently selected a paper and cleaning products supplier that provides brown recycled content paper towels and green cleaning products for all City facilities.

4. Maximize Recycling Opportunities and Reduce Waste

A. Residential Recycling Collection:

The City has recently expanded the residential recycling collection program to include most plastics, aseptic packaging, and plastic bags in addition to the previously accepted glass and metal and plastic containers, newspaper, and mixed paper and cardboard. Details of the new program are available on the City's website. The Department will continue to explore additional items as markets become available.

B. Right-of-Way Collection:

The City has many trash and recycling containers in the right-of-way. The addition of the recycled container has been increasing over the past several years. Currently, when a new trash can is located in the right-of-way, it is paired with a recycling container.

C. Permanent Drop-off for Electronics and Computer Components:

The City previously provided once a year drop-off events for the collection and recycling of small electronics and computer components. The program was expanded to a permanent drop-off at our Public Works Facility. The City recently received a \$10,000 grant from the Maryland Department of the Environment to offset the cost of processing for the program. We hope that funding will be provided annually.

D. Drop-Off For CFLS:

The Department provides a drop-off for CFL bulbs for use by City residents. City facility spent bulbs are also processed.

E. Reduce Waste

The City provides, at no charge, compost containers made available through Montgomery County for the use of composting of residential yard waste. The Department has provided over 40 bins since we became a distribution site.

Through the City's Fall leaf collection program over 2,000 tons of leaves are collected, ground and provided as mulch. The leaves are ground at the City's Public Works yard and the City provides mulch free for self loading or delivers for a fee to residents of the City and outside.

5. Use Native Plants and Resilient Plants, Remove Invasive Plants On City Land, Plant and Maintain Trees

A. Use Native and Resilient Plants:

The City Gardener places a high priority on the use of plants that are non-invasive and native. Emphasis is also placed on plants that are hardy, drought resistant and can withstand the pressures of living in a roadside environment. As gardens are replanted, effort is made to replace invasive species with alternatives.

B. Remove Invasive Plants On City Land:

Beginning two years ago, the Arborist has started a program to remove invasive plants on City land. Bamboo has been removed and the area treated with herbicide in Circle Woods, and Boyd Alley. Chemical treatment to kill Ailanthus has occurred on Second Avenue, Boston Avenue, Chestnut, Westmoreland and Eastern Avenue slope. The program is currently funded at \$10,000 annually. Additionally, in Circle Woods, Geneva Avenue and around the Public Works Facility,

chemical treatment was used to kill a variety of invasive species. The City is currently planning a program in Sligo Mill/Poplar Mill.

C. Plant and Maintain Trees:

The City Arborist has an annual budget of \$22,000 for tree planting and \$110,000 for maintenance and removals. Additional funds are available for planting each year through the Tree Fund which is financed from permit fees, tree planting agreements and fines. Three years ago, the City Arborist started a health maintenance pruning program for City trees. The City is divided into zones with the goal of completing pruning cycle on all City trees in five years.

A new program called Bulk Buy, was established two years ago to encourage tree planting on private property. A private tree nursery provides trees and installation, at the same cost offered to the City, for residents. This program has resulted in the purchase and installation of 86 trees (about 40 trees per year). The program is offered in October and April.

6. Manage stormwater system to improve water quality, maintain system integrity and expand system where needed using low impact design.

A. Innovative Storm Water System Improvements:

Over the past three years the City has installed numerous retrofit and stormwater projects designed to provide water quality improvement and reduce water quantity. Additionally, the projects have used low impact design techniques and have include permeable pavement and infiltration trenches. The completed projects include:

- Forest Park Rain Garden Installation
- Spring Park Bog and Stream Creation
- Cleveland Avenue stormwater infiltration system and rain garden
- Grant Avenue infiltration system in front of inlet
- Mississippi Avenue - Comstock Branch Bank Stabilization
- New York Avenue outfall stabilization
- Public Works Yard Filtration

B. Stormwater System Maintenance:

The City TV inspects all structures and pipes in the system. 1/3 of the system is inspected annually so the entire system is reviewed every three years. Through this program, defects are identified and placed on a maintenance schedule. The entire system is geolocated on a GIS layer which includes detailed information regarding pipe sizes, inlet locations and depths, outfall locations, etc. The City Engineer evaluates system defects and identifies whether or not the

repair can encompass low impact design features, including infiltration and permeability.

The City tests water at 15 outfall locations each year, as part of the NPDES requirements.

C. Partnerships With Other Organizations:

The City has worked with Friends of Sligo Creek on several projects including the Forest Park rain garden installation. The Department has also provided materials and support for a FOOSC program to design and install five to seven rain gardens on private property in Takoma Park.

The City has met with DC Greenworks and plans to work together to implement innovative stormwater management projects and greening projects around the community center.

D. Sligo Mill Poplar Mill Natural Area:

This wooded site was purchased through an agreement with Maryland-National Capital Park & Planning Commission. The site is owned by M-NCPPC, but is to be managed by the City of Takoma Park. The City was to develop a management plan. The City Engineer and City Arborist have contracted for two studies of the site to provide necessary background information for the management plan. A Phase 1 and partial Phase 2 Environmental Assessment was completed in the Spring of 2009 to identify contamination sources and recommend remediation practices. A forest stand delineation was performed to provide baseline information on the existing vegetation. This information was provided to MNCPPC and development of the management plan and recommendations for the best course of action still need to be developed.

E. Flood Mitigation Plan:

The City received a grant from the Maryland Emergency Management Agency (MEMA) to develop a Flood Mitigation Plan for the City of Takoma Park. Flood modeling was used to identify at risk areas, including Maple Avenue and 4th Avenue. The plan proposed potential mitigation strategies. The draft plan has been sent to MEMA for review and approval.

F. Upcoming Projects:

Linden Avenue Retaining Wall and Wetlands

Community Center Green Roof

(Both projects received ARRA funding and will be installed starting in November. The Linden Avenue project is expected to take six months, the Green Roof will be completed within two months.)

Public Works Renovation: This project included numerous green and environmentally

advantageous features. It is being designed to be LEED certified. The usual array of recycled content and sustainably made building products will be included, as well as a geothermal heating system, a rain water harvesting and grey water reuse system, daylighting, etc.

Hancock Avenue and Sheridan Avenue: Serious erosion problem for run-off.

Sidewalk Program: The City has been evaluating installation of sidewalk where they are missing and correcting non-ADA compliance sidewalks and ramps. Funding has been established for the program through the speed camera revenue. The Department has been investigating the possibility of use of pervious concrete in certain sidewalk applications. Based on the information collected thus far, the use of permeable concrete is possible, however the application has limitations and certain conditions need to be met in order for it to be successful. The cost of permeable concrete is expected to be about double regular sidewalk installation due to the requirement for design, subgrade excavation and preparation and specialized installation conditions. Additionally permeable concrete requires at least annual maintenance, which is not currently schedule for any other sidewalk areas.